ARMED FORCES MANAGEMENT

ARMY NAVY AIR FORCE COAST GUARD MARINES
1956
ARMY LIBRARY SERIAL RECORD

FEBRUARY 1956

Feature

Management of the Bureau of Supplies and Accounts, United States Navy

On The Cover

Rear Admiral Ralph J. Arnold, Supply Corps, U.S. Navy, entered the U.S. Naval Academy in 1919, graduated and commissioned Ensign on June 8, 1923.

In March 1954 he assumed duty as Vice Chief of Naval Material, Navy Department, and in May of that year was designated Deputy and Assistant Chief of the Bureau of Supplies and Accounts, Navy Department. On October 4, 1954 he was appointed Chief of the Bureau of Supplies and Accounts and Paymaster General of the Navy.

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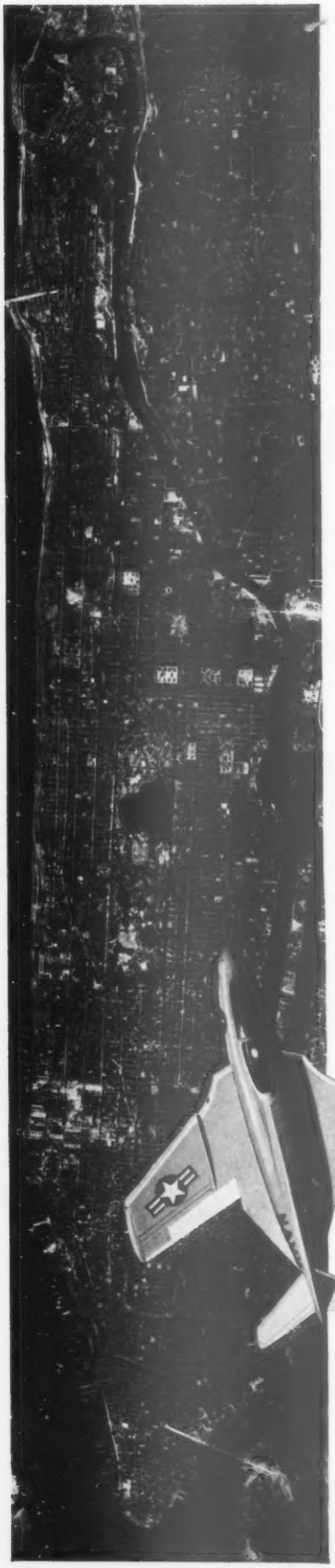

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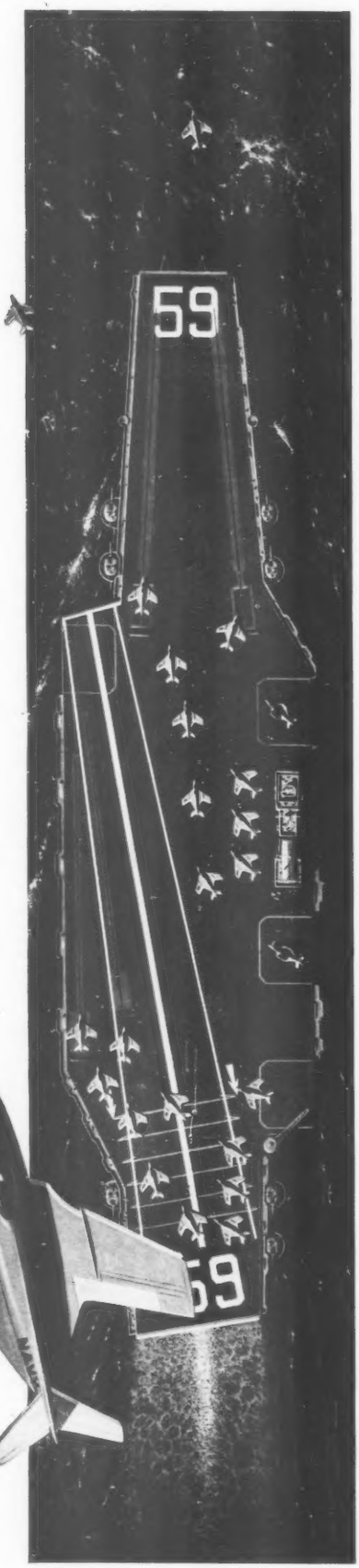

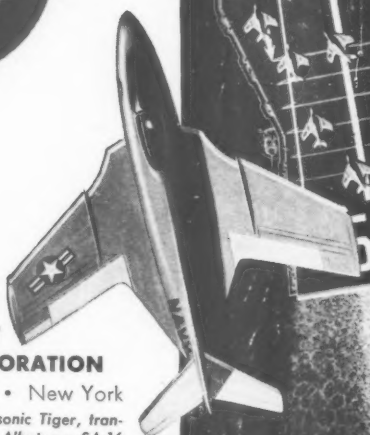

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ABOUT THE AUTHOR

A photographic career that dates back to the early twenties has given John H. Waddell a background that justifies characterization as a dean of Scientific Photography. His experiences in microcopying, x-ray, color photography, photographic instrumentation, high-speed motion picture photography, coupled with collaboration in developing a popular method of processing sound track film, are incorporated in his work *Photographic Motion Analysis*.

He was the first person to make underwater high-speed motion pictures in daylight at 4000 frames per second; he made the first full color pictures, in daylight, of a missile take-off. As a technical representative and consultant to the Army Air Forces, the author took the first high-speed color pictures of an atomic bomb explosion and, in 1952, he took the first high-speed color movies of the human heart in action—at 1000 pictures per second, motion was "frozen" to show every phase of each heart beat.

John H. Waddell's knowledge and experience finds him serving as consultant to the Army Air Forces, Navy, Ordnance, Bureau of Standards, Institute of Medical Research in Los Angeles, and other technical organizations.

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ARMED FORCES MANAGEMENT

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ARMED FORCES MANAGEMENT is published monthly by the Professional Services Publishing Company, Roy B. Southworth, President. Editorial and Business Office, 208 South Second Street, Rockford, Illinois. Publication office, 404 N. Wesley Ave., Mount Morris, Ill. Accepted as controlled circulation publication at Mount Morris, Illinois. Copyright 1956 by the Professional Services Publishing Company. Title registered, U.S. Patent Office. Six weeks notice before next publication date required for change of address. SUBSCRIPTION RATE: One Year—$3.50; Two Years—$6.00; Three Years—$8.00.

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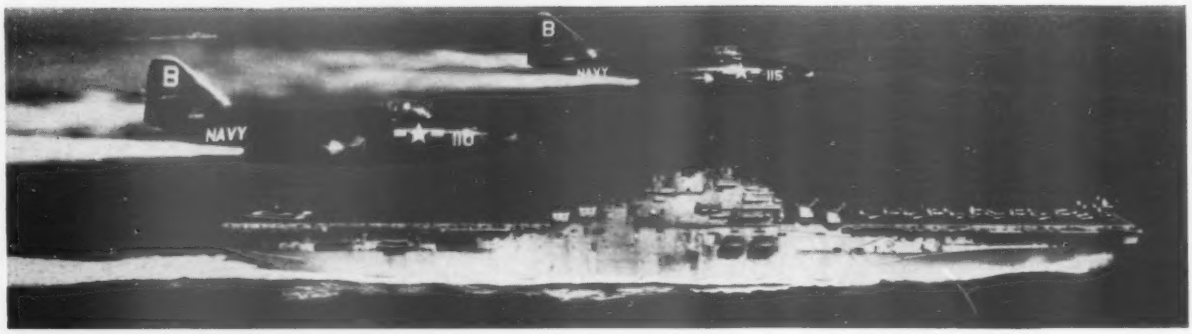

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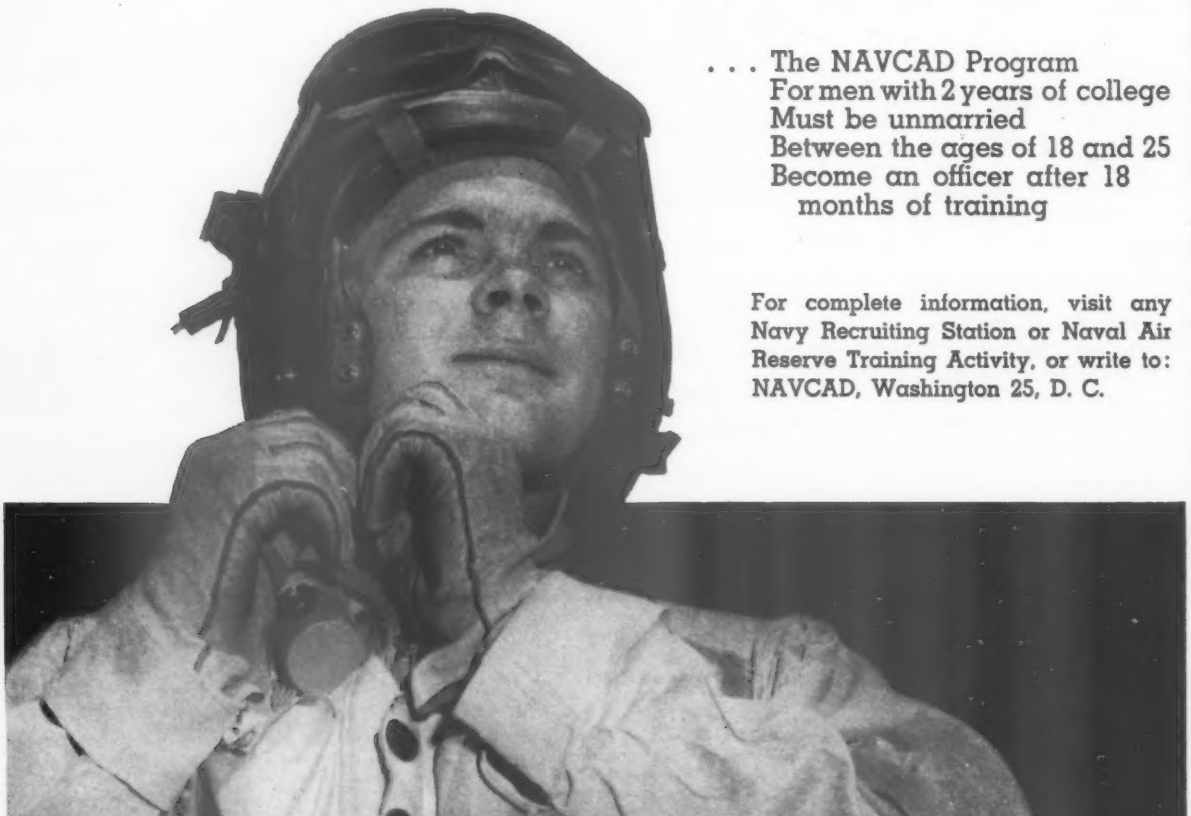


Rear Admiral Ralph J. Arnold
Chief of the Bureau of Supplies and Accounts and Paymaster General of the Navy

Management of the Bureau of Supplies And Accounts, United States Navy

THE TIME was that period historians have since labeled "the darkest days of the war." The place, the deck of the valiant aircraft carrier Yorktown for whom the curtain was rapidly descending as the result of a suicidal enemy hammering. This was the Battle of Midway.

Every man was a hero that day, but a few stood out. One was a young commander who wore the emblem of the Supply Corps but who had volunteered for a hazardous post in the ammunition supply of a five-inch gun. For "extraordinary heroism" that day and for a subsequent rescue from the sea of two men, Ralph Judd Arnold was awarded the Navy Cross, highest military honor the Navy can bestow.

Today that same Ralph Judd Arnold, now a rear admiral, sits at the control valve of one of the world's mightiest supply lines—the line that ends with the armed strength of the United States Navy and which has its beginning in Washington, D.C., in the office of the Chief of the Navy's Bureau of Supplies and Accounts, RADM R. J. Arnold, Supply Corps, U.S.N.

Never before—not during those hours aboard the sinking Yorktown; not during his four years at the U.S. Naval Academy; not as a Bronze Star Medal winner during the latter days of the war—has the dead weight of responsibility pressed as heavily upon the admiral's shoulders as today. For that responsibility is not to individual, nor to a ship, nor even to an area of military operations, but to every man and woman who wears the Navy blue anywhere in the world.

As a matter of fact, those Navy blue uniforms are just one item of supply to the Bureau of Supplies and Accounts (known within the Navy as BuSandA or merely S&A). Out of this supply line flows not only the clothes they wear, but the food they eat, the money they spend, the things they buy, the tools with which they work and the fuel with which they sail the ships and fly the planes.

In short, what the Navy and its fleet needs—when and where it is needed—BuSandA has a hand in supplying. That, of course, is an extremely simplified description of the operation of the Navy supply system, but in its effect this is its basic responsibility.

Now, having conjured up the picture of one man shoveling supplies into a coal chute, it is important to

point out that neither Admiral Arnold nor any of the 1,400-add military and civilian personnel who comprise the BuSandA staff, actually handle the supplies with which they are so concerned any more than Henry Ford II places the hub caps on the new Thunderbirds. His is a management function.

The parallel is even more exact within the respective organizations. Just as Ford has separate divisions within the company to exercise coordination for the various facets of automobile production, so does BuSandA with respect to Navy supplies and accounts. These divisions establish the policy and regulate the flow of supplies through the system. Physical operation of the supply system takes place within the world-wide network of supply demand control points, Naval supply centers, depots and supply departments.

Each center, depot and department – the particular designation depends to a great extent on its size–has a like mission; that of supplying, in a physical sense, the needs of the Fleet and Naval activities. It is at these activities that the flour ad shoes and aviation gas and electronics spare parts can be found, ready for shipment or distribution where they are required in the needed quantities.

The supply demand control points–Admiral Arnold has called them "the fellows who do the work" –can be likened to a central control agency for a particular type commodity. There is, among others, an aviation supply office, a provisions supply office, a fuel supply office. And offices for electronics, general stores, submarine, ordnance, clothing, ships parts, and yards and docks supply.

The SDCP's, though under the direct management control of BuSandA, are also under the "technical" direction of the Navy bureau which has the major interest in the material controlled; aviation supply and the Bureau of Aeronautics, ships parts and the Bureau of Ships, etc. Their expressed missions are long and in much detail, but, in brief, they determine requirements, procure, determine excess, redistribute to the centers and depots, and budget for the future in terms of supplies, supply lines and storage space – these, NAVY-WIDE, and not just for a particular locality.

Braced with years of experience as head of the Aviation Supply Office, Philadelphia, as well as Navy service in both shipboard and shore station supply capacities, Admiral Arnold came to BuSandA as Chief in October 1954. He brought with him particular qualifications for a job the success of which depends to such a large measure on the individual SDCP.

But the admiral makes no pretense at "going it alone." He relies for advice and assistance on a deputy and assistant chief of bureau, on four assistant chiefs, each charged with responsibility for a specific but broad area of Navy supply. And on the guidance of a weekly policy council meeting with his assistants, the BuSandA comptroller, inspector general and staff directors.

The deputy, Rear Admiral Joel D. Parks, SC, USN, serves in the important post of acting bureau chief when Admiral Arnold is away from Washington taking a first-hand check on the business end of the supply line. He otherwise relieves the chief of a great many administrative chores.

Supply management, purchasing, transportation, and accounting and disbursing are the four fields for which Admiral Arnold has named an assistant chief. And within themselves they embrace the mission of the Bureau of Supplies and Accounts.

Largest of the four, in terms of broadness of field, is supply management. As with the other three, the individual mission parallels that of the Bureau as a whole, but on a limited scale. The assistant chief, Rear Admiral Thomas L. Becknell, Jr., SC, USN, carries out the direction, planning, implementation of policy and coordination of the bureau's Navy-wide responsibilities in fields such as inventory control, subsistence, fuel and clothing; storage, cataloging, and stock finance and coordination.

Supply management is concerned also with the operation of Navy ships' stores and with the program for the redistribution and disposal of salvage and surplus material. It is vitally concerned with the program for industrial mobilization.

Within those areas with which the assistant chief for supply management is concerned falls practically every material need of the naval establishment as well as policies for storage, stock and inventory control of that material.

"That material" is and would remain manufacturer's stock were it not for the efforts of the assistant chief for purchasing and his staff. Captain D. C. MacKenzie, SC, USN, is Read Admiral Arnold's agent in matters of field purchase functions and Navy purchasing offices, and is the man behind the policy planning of the purchase operations of BuSandA. In addition, Captain MacKenzie's divisions are concerned with the review of purchase contracts and the analysis of requests and suggestions for changes in purchase procedures.

Charged with moving the goods in the Navy supply set-up is the assistant chief for transportation. Currently he is Captain Fred L. Haerlin, SC, USN, under whom policies are set which affect air and surface traffic, freight rate and classification, cargo and terminal operation and even the movement of nousenold goods for naval personnel and their families.

Another assistant chief is the key to the "accounts" in the "Bureau of

CAP Mission Geared For Vital Air Support In Event US Attacked

Washington (AFPS) – In the event of war, the U. S. will rely on the Civil Air Patrol to furnish air support for civil defense, rush aid to stricken regions and plot areas of deadly radioactivity, according to Air Force Secretary Donald A. Quarles.

The patrol has proved itself capable of handling these and other emergency missions in its 14 years' experience, Mr. Quarles told the CAP's leadership conference here recently.

Thirty thousand ex-CAP cadets now serve in the Air Force and one-tenth of the AF Academy's student body are former cadets, the AF secretary said. He referred to the "fine work" the CAP is doing with American youngsters "to improve their understanding of aviation and the air age in which we live."

Supplies and Accounts." He is Captain John F. Castree, SC, USN, assistant chief for accounting and distributing.

An elaboration of the mission of Captain Castree's group would, in several additional sentences and 100 additional words, boil down to this: Responsibility for the administration of the Naval Working fund for the United States Navy; management control over the Navy regional accounts offices, the Navy accounts disbursing offices and the Navy Finance Center. And for guiding the fiscal policies of all naval activities assigned to BuSandA's control.

Those duties, of course, are in addition to the policy determination requirements which fall to Admiral Arnold as BuSandA Chief and which he entrusts to his assistant chief for accounting and disbursing.

The areas covered by the offices of the assistant chiefs, then, embrace most, but not all ,of BuSandA's contribution to the Navy's operating forces. There is, as a good example, the Officer Personnel division which is a "supply demand control point" for Supply Corps personnel—those men who are responsible for making work all the plans and policies established by the parent bureau.

Within that division, headed by Captain E. W. Sutherling, SC, USN, are branches devoted to the assignment of qualified Supply Corps officers to duty stations at sea, on foreign shore and in the United States. Others are concerned with the training of Reserve officers not now on active duty as well as the further training of active duty officers.

So it is more than true that the Bureau of Supplies and Accounts has a hand in virtually every phase of supply, even including the flow of trained officer personnel to supply billets throughout the world.

There are at least two other operations with which BuSandA concerns itself which are so important in this time of progress and ever-changing conditions. One is represented by the bureau's Research and Development division. This office coordinates BuSandA's continuing effort to find better ways and better things in the fields of food, clothing and logistics research. And also atomic, radiological and chemical warfare as pertaining to food and clothing.

The Navy Supply Research and Development Facility at Bayonne, N.J., is a responsibility of the Bureau of Supplies and Accounts and it is significant that out of NSR& DF Bayonne have come such things as a simplified cargo handling device and methods to increase the storage life of fresh vegetables aboard ship.

Along the lines of "better ways and things" is the Bureau's Management Engineering division. Although not involved directly in "service to the fleet"—a phrase which became a Navy by-ward last February when the Navy Supply Corps celebrated "160 years of service to the fleet,"—the management engineers dig deeply into matters of efficiency, economy and labor saving—all with the ultimate goal a more efficient operation, better able to serve the Navy's needs.

It never has been, nor will anyone ever pretend that it is a one-man job, this job that Admiral Arnold fills. But it would be equally short-sighted to pretend that the caliber of the man who fills that job is unimportant to the over-all success of the Bureau and the Navy it serves.

The current Chief of the Bureau of Supplies and Accounts has demonstrated in a manner unostentatious but convincing that his is the character that fosters the motivating power behind an organization the size and importance of BuSandA.

And where was that character developed and strengthened? It was at the Navail Academy. It was on a farm near his boyhood town of Garden Grove, Iowa. It was on the battle-torn deck of a sinking carrier.

Buckingham Builds Modern Terminal

Construction of one of the most modern truck terminals in the northwest was announced as completed on December 15, by Earl Buckingham, president and general manager, Buckingham Transportation, Inc. Built at a cost of over $350,000, the new twin cities facility, located at 2508 Kennedy N. E., in Minneapolis, is located in the heart of the industrial area.

Borg-Warner Honored As Company of the Month

In recognition of its service to the free market economy, Borg-Warner Corporation was honored as the Company of the Month for January 1956 by the Henry George School of Social Science.

Roy C. Ingersoll, president of Borg-Warner, responded for his company in acknowledging the citation at the 73rd monthly Commerce and Industry luncheon of the School in Marshall Field & Co., Jan. 5.

"Borg-Warner Corporation fulfills in outstanding measure the dynamic requirements of modern industry in a free economy," said Edward W. Jochim, general manager of Personal Products Corporation and president of the School's board of trustees, in announcing the citation.

"In its manufacturing and merchandising policies, and throughout its farsighted research and management-in-depth programs, everywhere the leadership of Borg-Warner realizes that the preferences of the individual consumer are what shape the decisions of the mightiest corporations. In the free market, industry inevitably must serve the individual."

Mr. Jochim pointed out that Borg-Warner is the eighteenth company to be cited by the School as illustrating "the functioning and high purposes of an economy based on the integrity, the freedom, and the aspirations of the individual."

Honor 5th Armored Div. For Luxembourg Action

Camp Chaffee, Ark. (AFPS)—An unusual honor was bestowed on the 5th Armored Div. here recently when it received the Luxembourg Croix de Guerre for the liberation of the tiny nation during WWII.

The citation entitles the division to fly on its colors a streamer of the colors of the Luxembourg Croix de Guerre. The division commander will wear a corresponding ribbon on behalf of his men.

The decoration, awarded by Grand Duchess Charlotte, was for the "Victory Division's" action in driving German units from Luxembourg in September 1944.

ORGANIZATION—From Empiricism to Principle

By Colonel Leland B. Kuhre

Chapter Two

IN THE PRECEDING part of this exposition it was found that there is no accepted theory of organization yet available; and, lacking a theory, man is forced to be an empiric in organization for human enterprise—that is, he must base his knowledge and practice on experience alone.

When man is faced with a problem of creating (or recreating) an organizational structure (omitting construction, operation and maintenance for this point) his equipment for the job is limited to: 1) patterns of other similar organizations; 2) experience of others; and 3) his own experience. In order to bring the preceding three elements of his equipment to focus in decision, he has only his native or "natural" organizing ability to bring to bear on the three elements.

To say "Man's native or 'natural' organizing ability" is another way of saying that something in his subconscious mind responds to the situation, is drawn up into the conscious mind (though perhaps in unawareness), and is applied to the situation; it is not a reasoned process of mental awareness.

It was our thesis earlier in this article that centuries of example and practice of the family concept have given that concept the strength of tradition in man's consciousness; and, as is the case with tradition, it is implanted in his subconscious. Because it is a tradition, it is in the mind of man with the fixity of a religious belief.

That a tradition has somehow been implanted in the subconscious mind is observed when the wholly inexperienced six-year-old "naturally" "organizes" his first gang of neighborhood boys. We observe the same fundamental approach when the man of sixty organizes an enterprise—whether it be military, business, government or social. The basic difference between six and sixty is that the latter has accumulated patterns, experience of others, and his own experience through which he applies the same "natural" organizing ability. Perhaps we need to remind ourselves at this point that personal magnetism is not pertinent to this analysis; we are concerned only with structure.

In the first part of this article we took the position that the school of empiricism with its family concept of structure in terms of man as the basic unit was not adequate for the world we now live in (since technology). Instead of continuing the empirical approach in terms of *relativity of man* we proposed a *theory of relativity of ideas* with *ideas* as the basic unit. We also explained how the name "Atorgenics" came into being as a symbol for the body of knowledge developed in the theory of relativity of ideas.

Let us now do what we proposed in the beginning of this exposition —break through the ceiling of empiricism and find principle. And in so doing, we hope to cause the probable frequency distribution of all our organizations — military, business, government, and social— to move its mean effectiveness of 30 percent to, say, 80 percent effectiveness in releasing the full potential energy of man into the productivity of the organization.

It is our purpose to present here only enough of Atorgenics to give its general structure—enough to see that a *theory of relativity of ideas* is a practical and workable possibility, and enough to visualize how and why the practice of it will release the potential energy of each individual in the organization.

We shall start with the basic elements of structure common to all organizations (any organization for any purpose). We shall then express these basic elements as the highest order of abstraction on the semantic ladder of Atorgenics.

We shall then move down the semantic ladder to lesser and lesser orders of abstractions en route to reaching the referents (acts, objects, or events). There the ideas can be perceived by the senses (seen, felt, handled); and thus they can be transformed into acts. It is much beyond the limitations of space to give the complete structure of Atorgenics—from the highest abstraction to all the referents. For example, the formulary for the design process alone is a fifty page hand-book.

When we get close enough to the referents to see that "Design" is the key to all the rest, we shall concentrate on "Design" and go through that in appropriate detail. The same detail is appropriate to all of the other ideas at that level, but they shall receive general treatment only.

On the way, the detailed reasoning in some steps will be omitted by the device of assuming "It is obvious that . . ." (or equivalent expression); this is used only in those cases where the particular reasoning is not considered essential to later steps; and even if it is not obvious, the lack of reasoning

is not a deterrent to making an assumption and proceeding with the development.

Then we shall look at a designed structure in operation in the "Granite City Test" to get from the abstract to the real. With an example of how the "Design" looks in practical usage, we shall then give a general treatment to the other ideas of Atorgenics coordinate to "Design"—with some special emphasis on "Program Cycle" as another key.

Statistics and other evidence from the "Granite City Test" will then be examined as indicators of the effect of Atorgenics at the two-thirds point in its installation.

We shall then measure Atorgenics against the specifications for a theory of organization as drawn up by leading thinkers in the field.

To begin at the beginning, let us assume an external position and look at all of the organizations in our experience (either to be or in being); let us take into our minds the elements that are common to all of them; and then let us represent these elements diagrammatically as Figure No. 2 as representing all organizational structures whether the people in them be numbered by tens, or hundreds, or thousands, or millions.

We can visualize some idea of accomplishment resting on the organization, (make automobiles, deliver projectiles on to an enemy, construct dams, produce an answer to a research problem . . .). We can next see the end-of-the-line acts of accomplishment being produced by individuals – (make a forging, fire a weapon, move earth, doing a laboratory experiment . . .); this is represented by the rectangles at the bottom of the structure. We can see materials and ideas coming into the whole organization, flow through the organization and come out as the production of the organization.

The production of the organization (to be or in being) is the manifestation of the power of the organization. Or, we can say that the production is a manifestation of the rate of energy flow through the organization. Thus production varies directly as organizational power.

Prod oc Org Power (1)

It might at first appear that Organizational Power was a function of physical activity until we realize that physical activity is a manifestation of mental energy. (The mind must tell the body what to do, how to do it, how fast to do it . . .). And mental energy has its source in Idea Flow—the flow of ideas from mind to mind throughout the organization. Obviously if there were no flow of ideas, the organization would be "dead"; there could not (and would not) be activity. Thus, organization power varies directly as Idea Flow:

Org. Power oc IF (2)

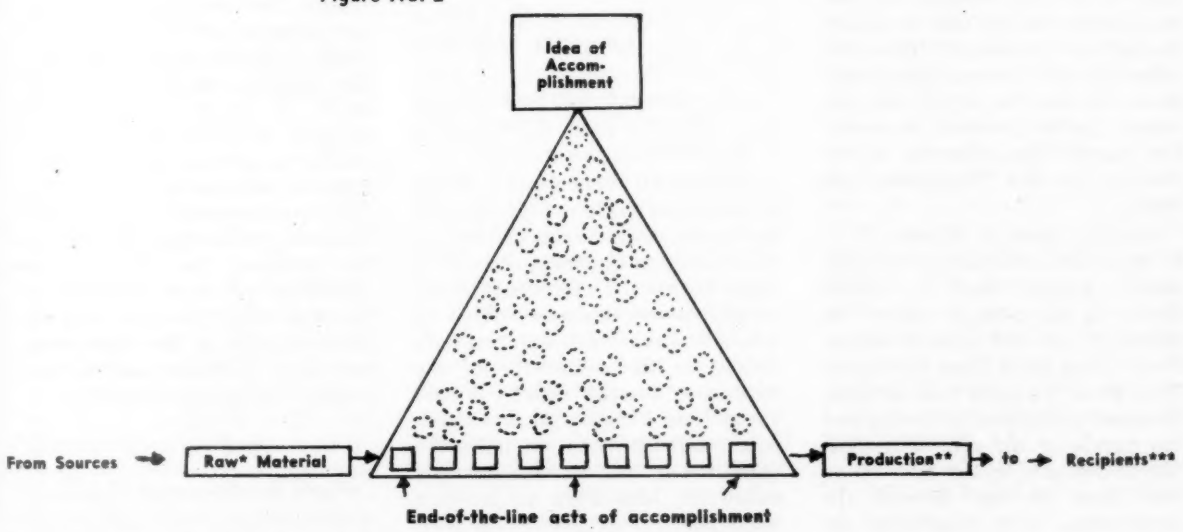
For ideas to flow, there must first be a creation of ideas in the mind. Obviously, the creation of ideas varies directly as Idea Creation Capacity:

IF oc ICC (3)

We shall examine the concept of idea creation capacity a little more later.

Idea Flow requires more than a static Idea Creation Capacity of a mind. There must be some force or attraction to cause the ideas to flow from mind to mind. Holding in our thinking a concept of Potential Difference, let us examine two adjacent minds: One mind has created the idea, and the other mind is the proper recipient of the idea. The attitude of the recipient can vary from one extreme of opposition (due to antagonism, for example) to the other extreme of the highest degree of receptivity.

Figure No. 2



* "Raw" in this sense is relative—it is the condition just prior to entering the organization. The material can be either idea material or physical material for idea production or physical production.

** "Production" is used in the broad sense as the tangible manifestation of the Idea of Accomplishment at the top of the structure.

*** "Recipient" here is the broad usage of any consumer, user or customer of the "Production."

Thus we can say that the potential difference for the flow of ideas between the two minds can be great or small. When there is a high degree of receptivity in the recipient, then we say that the potential difference between the two minds is greatest, and thus the maximum idea flow occurs. When there is full opposition to the reception of the idea in the recipient, then we say that the potential difference between the two minds is smallest, and thus the minimum idea flow occurs. Thus, *I*dea *F*low varies directly as *I*dea *P*otential *D*ifference: The greater the Potential Difference the greater the Idea Flow; the lesser the Potential Difference, the lesser the Idea Flow between any two minds.

$$\text{IF oc IPD} \qquad (4)$$

In addition to the optimum situation of high receptivity *in*, there must of course be a high energizing *out* of the mind of the recipient to another mind. Depending upon the organization (whether it has people by the tens, hundreds, thousands, or millions . . .) ideas must flow through a proportionate number of minds en route to being applied at the decisive point and transformed into an act.

But how does the idea know what route to follow? What happens to the idea when it can find no appropriate position in the organization to receive it? If the idea follows a certain route, how does it know whether or not it has bypassed certain positions en route? Let us call these obstacles to the flow of the idea "Resistance" (to flow).

Looking again at Figure No. 2 let us reason from the extreme situations. Assume that the minds shown in the triangle above the rectangles are not present—figuratively erase them from the figure. Then there is a great void between the mind of the head at the top and the minds at the end-of-the-line. The Resistance to the flow of an idea from the top through the organization is a maximum approaching infinity; and the Idea Flow is a minimum approaching zero.

Take the other extreme: Assume each of the circles inside of the triangle in Figure No. 2 represents the appropriate position (or multiple positions) in the organization. Assume the positions have an optimum relativity, order, and structure. Now as the idea at the top starts its flow, it feels the force of a natural affinity for the idea content of a certain adjacent position (or positions). And so it flows.

Now the action is repeated: As the idea emerges from the position (or positions) it feels the force of a natural affinity for the idea content of another certain adjacent position (or positions). And again it flows. This process is repeated until the idea is transformed into an act at the decisive point; and in the ideal extreme just visualized we have a minimum of resistance and, consequently, a maximum Idea Flow. Thus we can say that *I*dea *F*low varies inversely as Resistance:

$$\text{IF oc } \frac{1}{R} \qquad (5)$$

Putting (3), (4) and (5) together we have:

$$\text{IF oc } \frac{\text{ICC x IPD}}{R} \qquad (6)$$

where:

IF represents the Idea Flow through the organization

ICC represents Idea Creation Capacity of minds in the organization

IPD represents the Idea Potential Difference between minds

R represents the Resistance to flow of ideas in the organization.

Number (6) above expresses the reasoning so far; Idea Flow through the organization varies directly as Idea Creation Capacity, directly as Ideal Potential Difference, and inversely as the Resistance. That is, when you maximize the two conditions in the numerator of the expression on the right you will cause Idea Flow to be at a maximum; and when you minimize the condition in the denominator you cause the Idea Flow to be at a maximum.

Having a maximum Idea Flow, you cause a maximum Organization Power (2); and having a maximum Organization Power, you cause maximum Production (1) to come out of the organization as the manifestation of the idea of accomplishment resting upon (and causing) the organization. (Figure No. 2).

Here, then, is the principle of organization (6) for which the search started in 1935. As we shall see, it does include in its ideas *all* ideas for the design, construction, operation and maintenance of any organization structure for any purpose. It is a basis for reasoning. It has within it a balancing of cause and effect. From it we can derive correlative principles; from them corollaries; from them rules; and from them formulas—all in a relativity and order.

The key concept of 1945 did not give the principle as stated in (6); but it did start a steady (and knowing) progression towards it until it took form quite suddenly for the first time in April of 1955 during the "Granite City Test."

But to continue our way down the semantic ladder: Obviously the terms in (6) are of far too high an order of abstraction for specific and direct action to maximize the two and minimize the one. So we shall have to move down the ladder until we get closer to the referents of the abstractions. Then, perhaps, we can "see, feel, and handle" them to cause specific results. Let us, therefore, examine the three abstractions in the principle (6).

Idea Creation Capacity of a mind (or group of minds) will vary directly with the appropriateness of the problem or situation to the mind (or group of minds). For example, if I had the problem of producing atomic energy by constructing a reactor the resultant idea creation would be very small! However, if Dr. Oppenheimer had the problem the idea creation would be very large. Thus we can say that *I*dea *C*reation *P*otential varies directly as the *App*ropriateness of the problem or situation to a mind (or group of minds):

$$\text{ICC oc App} \qquad (7)$$

From the discussion of Idea Potential Difference (4) we can see that it can be shown that *I*dea *P*otential *D*ifference varies directly as the *Att*itude of the minds involved in the idea flow situation. Thus we have:

$$\text{IPD oc Att} \qquad (8)$$

Similarly, from the discussion of Resistance, we can see that it can be shown that Resistance varies inversely as the Affinity of the idea content, the completeness, and the relativity of all positions in the structure. The better the *Affinity* the less the *Resistance* to Idea Flow. Thus:

$$R \text{ oc} \frac{1}{Aff} \qquad (9)$$

Substituting (7) (8) and (9) in (6) we have:

$$IF \text{ oc } App \times Att \times Aff \qquad (10)$$

But the expressions on the right are still too high on the semantic ladder to be handled in terms of specific planned action to maximize them.

The concept of Affinity is the most difficult. Obviously if the idea content of *each position* could be compressed into a single idea of accomplishment, and if each of these single ideas could have a designed relativity order and structure with respect to each other and to the whole, then you would have made a major step towards optimum Affinity. If, in addition, the idea structure of positions could be so constructed that *all* appropriate ideas were present in the structure, there would then be an affinity attraction for all possible ideas in the flow. As this concept is entirely structure, it follows that Affinity varies directly as the Design, Construction, Operation and Maintenance of the whole organizational structure

$$Aff \text{ oc} \begin{cases} \text{Design} \\ \text{Construction} \\ \text{Operation} \\ \text{Maintenance} \end{cases} \qquad (11)$$

Of the above four items, the Design is the key. Once the design is accomplished so as to produce the single idea content of each and every position in the entire structure in its relativity order and structure to each other and to the whole—once this is done it has been found that the Construction of the organization, and its proper Operation and Maintenance is apparent and correct because the Design sets the stage for and invites the best appropriate methods.

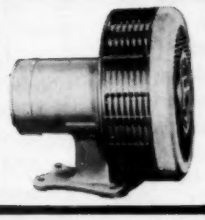
An hypothesis for Design was formulated in 1945 and put into experimental verification in 1946. A revision of hypothesis was then made for experimental verification in 1947-48. This enabled a second revision of hypothesis to be put into "laboratories" for experimental verification in 1948-49. Then the theory was formulated and used and tested in many successive and varied situations for the next 6 years. The concept of 1945 had three parts—related, yet separate.

The first part of the concept of 1945 was keyed primarily to the problem of Affinity. That is, how to Design so as maximize Affinity. It was visualized that the idea of accomplishment of the organization-to-be (or in being) could be expressed in a form that would have structure and substance and thus could be handled as an entity without loss of identity. Since this idea contained within it all of the ideas of accomplishment for the entire organization-to-be (or in being), there might be a way to *generate* the next lesser included ideas of accomplishment by a traceable and auditable process. Because the ideas were to be *generated*, they would then have a genetic affinity for the idea from which they came and for each other. In physical analogy, the process would be similar to asexual reproduction of living organisms. Assume reproduction in man as asexual. Then the combined "father-mother" person would generate off-spring, and there would be a genetic affinity between parent and off-spring. There would also be a genetic "brother-sister" affinity between the children. The concept in analogy is the same in the idea generation hypothesis presented at the beginning of this paragraph. When we look at "Design" a little later we shall see more clearly how it is the key to Affinity.

The second part of the concept of 1945 was keyed to the problem of Appropriateness. It was visualized that attaining maximum Appropriateness would be inherent in the generation process; that is, the generation process would generate each idea as appropriate to a mind available in the technology

Simple LOGISTICS

Those who use sirens on military vehicles know how important it is to have an adequate warning signal, many have learned the hard way. Merely putting in a request for a "siren" does not assure procurement of an efficient signal. Too often loose specifications will procure useless or inefficient materiel.



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and entology of the times. (Atorgenics is timeless and is not in terms of today alone). This concept also was an hypothesis in 1945 and put into experimental verification in 1946. It was a companion development to the generation concept above. It will be seen that Appropriateness varies directly as *pneumagenesis* (to be developed), but since we shall use *pneumagenesis* in Design, we can let the Design explanation suffice for the explanation of *pneumagenesis* (Pg) and not move any further down the semantic ladder from Appropriateness, except to state the correlative principle:

$$\text{App} \propto \text{Pg} \qquad (12)$$

The third part of the key concept of 1945 was a visualization of a basic unit of organizational structures in terms of ideas. A unit could have a nucleus idea, and held to the nucleus idea with an affinity (also genetic) would be the appropriate related ideas. The nucleus and its related ideas would then form a unit capable of representing and expressing the totality of any situation—however big or complex; and the internal structure of the unit would be analogous to the structure of a solar system in matter with its nucleus and orbiting related planets, sub-planets, satellites and comets.

It will be much easier to understand this unit of ideas when we see the unit formed in Design. Thus, the explanation of Design is the key to understanding this third concept also.

Before we go into Design, let us go back and pick up Attitude (10) and carry it one more step down the semantic ladder.

It is in the concept of Attitude that we get into the creation and distribution of satisfaction of human wants *by the organization* (not by the pater) as being the point of attack for maximizing Attitude. In this area much research and much writing has been done. There are many different word symbols for expressing the same ideas. To go through all of this to show the derivation of the next step is much beyond the space available. This would be the result —that Attitude varies directly as the organization (impersonally) does these four things: 1) dignifies each man, 2) recognizes each individual, 3) motivates each mind, and 4) releases the energy contribution of each mind into designed and apparent channels so that the contribution is seen through to its ultimate place in the accomplishment of the organization as a whole. Thus:

$$\text{Attitude} \propto \begin{cases} \text{Dignify each man} \\ \text{Recognize each individual} \\ \text{Motivate each mind} \\ \text{Release the energy} \end{cases} \qquad (13)$$

As each of these four ideas is made less abstract to get more tangible ideas further down the semantic ladder, it has been found that recurring every day *actions* are built in to the whole structure to give an impersonal creation and distribution of human satisfactions; and the summation of these actions maximize each of the four actions listed in (13). Thus Attitude is maximized, and this in turn maximizes Idea Flow (10), and it in turn maximizes Organizational Power (2), and it in turn maximizes Production (or mission accomplishment) (1).

As we look into Design, notice how it not only sets the stage for maximizing Affinity, but it also does the same for Attitude by building into the structure the optimum setting for the four ideas in (13). All seems to mesh toward a common goal—the dual role of any organization: to accomplish its purpose and at the same time to create and distribute human satisfactions.

Before we look at Design, let us take stock of what we have developed thus far:

We took an external view of all of man's organizations for human enterprise; we saw that certain elements of structure and operations were fundamental and common to all of them; and we expressed these elements graphically in Figure No. 2. We could see the idea of accomplishment at the top of the structure; we could see the individual acts of accomplishment being done "on the ground" at the end-of-the-line; we could see that the summation of the end-o-the-line acts was the production of the organization; we could see a flow of "raw" material coming into the organization from sources; we could see this material moving through the organization and being transformed into production at the end-of-the-line; and, finally we could see the production leaving the organization destined for its recipients.

From our study of Figure No. 2 we said that Production varies directly as Organizational Power

$$\text{Prod} \propto \text{Org Power} \qquad (1)$$

We next said that organizational power varies directly as Idea Flow through the organization

$$\text{Org Power} \propto \text{IF} \qquad (2)$$

We next found the three variables that directly affect Idea Flow: They were Idea Creation Capacity, Idea Potential Difference, and Resistance. We found that the relativity of these variables is expressed as:

$$\text{IF} \propto \frac{\text{ICC} \times \text{IPD}}{\text{R}} \qquad (6)$$

This is *the principle* of organization from which the whole of Atorgenics is derivable.

In order to move from the abstractions in the principle down the semantic ladder en route to the referents of the abstractions, we showed this one step down:

Idea Creation Potential varies directly as the Appropriateness of

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New System of Pay For Army Personnel Began at Dix Dec. 1

Ft. Dix, N. J. (AFPS)— "Operation Pay", a test of a new system of paying army personnel, began here Dec. 1.

The test, which will continue indefinitely, presently is limited to some 2,000 troops, whose units are served by the personnel offices of the 1262nd SU and the 364th Inf. Regt. of the 69th Inf. Div. here.

The new pay system was tried out experimentally on paper last summer by these same units. This time, however, the military pay record system, which now is in use throughout the Army, will be dropped.

The new military pay voucher system will be used alone. Under this plan, each man is given a complete account of his pay status each month.

the problem or situation to the mind (or group of minds)

$$\text{ICC oc App} \qquad (7)$$

Idea Potential Difference varies directly as the Attitude of the minds involved in the Idea Flow situation

$$\text{IPD oc Att} \qquad (8)$$

Resistance varies inversely as the Affinity of the idea content, the completeness, and the relativity of all positions in the structure

$$\text{R oc } \frac{1}{\text{Aff}} \qquad (9)$$

Substituting in (6) we have

$$\text{IF oc App x Att x Aff} \qquad (10)$$

Carrying each of the expressions on the right in (10) one step further down the semantic ladder, we found that

$$\text{Aff oc} \begin{cases} \text{Design} \\ \text{Construction} \\ \text{Operation} \\ \text{Maintenance} \end{cases} \qquad (11)$$

and we pointed out that Design was the key because it sets the stage for and invites the best appropriate methods for the other three.

We saw that the Appropriateness of a situation or problem to one mind (or a group of minds) varied directly as the soundness of the generation of the idea content of all positions in the structure in their relativity and order. The generation process is the key concept that makes the whole of Atorgenics possible; it is discussed in the Design process where it is called "Pneumagenesis" (Pg). The derivation of the name will be explained later. Let us now say that:

$$\text{App oc Pg} \qquad (12)$$

We developed that Attitude varied directly as the organization satisfies human wants:

$$\text{Att oc} \begin{cases} \text{Dignify each man} \\ \text{Recognize each individual} \\ \text{Motivate each mind} \\ \text{Release the energy} \end{cases} \qquad (13)$$

Because "Pneumagenesis" determines Appropriateness, because "Pneumagenesis" is the process that makes Design possible, and because Design is the key to Affinity, we select Design to develop in some detail for this limited exposition. When we see Design, the whole of Atorgenics—as a concept—should fall into place in mind.

Let us listen to Mr. Wayne C. Banks, the Management Assistance Officer of the Granite City Engineer Depot, as he explains to some visitors the design of a new organization recently completed. We shall distill the language he uses for a specific problem and provide you with the essence. Thus, the language used here will be common to any organization.

We take as our starting point the statement of the problem in fundamentals as shown in Figure No. 2. Here the idea to be accomplished by the organization-to-be is shown as a load resting on the triangle (symbol for the organizational structure). We can visualize typical individual acts of accomplishment being performed at the end-of-the-line where ideas are converted into acts. The summation of the acts of accomplishment at the end-of-the-line must equal the whole act visualized in the idea that was to have been accomplished. There is a flow of materials or ideas from some sources moving into the organization; and it is this material or ideas the individual at the end-of-the-line does something to to convert it into the act of accomplishment. The summation of the individual acts then leaves the organization to flow into the hands of recipients.

In a combat organization in contact with the enemy, munitions flow from sources into the organization and the end-product (projectiles) is delivered to the recipient (the enemy). In the steel industry, iron ore and scrap flow from sources into the organization and the end-product (steel) is delivered to recipients. In an idea production organization, raw ideas flow from sources of knowledge into the organization and the end-product—an orderly and fitted arrangement of ideas for a purpose—is delivered to recipients. And so on for any organization.

(In the next part, the idea of accomplishment at the top of the structure-to-be is generated by pneumagenesis *to reach the end-of-the-line where the idea is transformable into an act of accomplishment. We can then see the whole organization-to-be as an idea structure. From each of the ideas as a nucleus we form the basic design unit of the structure—analogous to the atom in matter or the cell in the organism)*

Continued next month

SAC Jet Tanker Flies Seattle to Offutt AFB In 2 Hours, 19 Min.

Seattle, Wash. (AFPS) — The Boeing 707 jet transport prototype recently completed a two-hour-and-19-minute flight from here to Offutt AFB, Neb.

The 707, an advanced version of which is now in production for the Strategic Air Command, averaged 595 mph for the 1,380-mile journey.

Designated KC-135, the 707 will refuel SAC bombers and fighters. It will provide jet-speed mobility in moving supplies and equipment.

"Crackerjack" Tests Continent's Defenses

Ent AFB, Colo. (AFPS)—Bombers of the Strategic Air Command played the role of aggressor in a surprise, continentwide test of U.S. and Canadian air defenses in which more than 500,000 persons took part. The huge operation was called "Crackerjack."

Defending aircraft under the command of Gen. Earle E. Partridge, chief of the Continental Air Defense Command, "threw back" the assault which was directed against most of the nation's key strategic cities.

Mobilized in the defense effort were units of the Army, Navy, Marine air arm, Air National Guard, AF reserve and some 400,000 civilian spotters of the Ground Observer Corps. Canadian forces also played their allotted roles.

To give the exercise as much authenticity as possible, none of the units was given any forewarning of the alert.

It was sounded by the CONAD's combat operations center here at the moment the first wave of "aggressor" bombers was spotted. The alert continued for more than 13 hours.

Involved were forces as distant as the west coast, the Early Warning Line in Canada and Newfoundland. But the entire far-flung operation was directed from Gen. Partridge's command post here.

HUMAN RELATIONS— THE KEY TO ABUNDANT HAPPINESS

By Henry J. Kaiser
President, Kaiser Steel Corporation

NOT SO LONG ago, how well I recall, prior to a speaking trip, a member of my family asking me, "What are you going to Chicago for?" I said I was going to speak to a group of people on a subject that I felt was very important to the country. She said, "Instead of doing so much talking, why don't you just do something?"

This thought sticks with me. Here I am about to write of human relations, yet knowing how easy it is to preach; how difficult to practice what we preach. My message to you is about the things I not only want to *write* about, but also the things we want to practice.

The great truths by which to live *are* simple. The Sermon on the Mount and the Golden Rule are simple. A child can understand the plain words. But for 2,000 years, there has been nothing that so moved the hearts of men—nothing more true and right as a guide to human relations. However, to apply sound principles of labor relations – principles so simple yet basic, so simple as to seem trite and, since seeming trite, to be neglected —is *not* easy, believe me. The easy pathway is to give way to passions of conflict. Sometimes the principles seem to take an awful, awful beating. You have to work far harder and struggle for compassion to win out when emotions are in turmoil, in order to achieve the simple, right human relations. But the simple principles we've felt in our hearts all our lives do work; they will work regardless of difficulties and conditions, if you have the courage and faith to stick to them through thick and thin.

In writing, I kept turning over in my mind the question: How do the attitudes of industrial managements and employees and their collective bargaining representatives toward each other affect the lives, liberties and pursuit of happiness of people? That is the test. Attitudes in industry and in labor relations can provide a key to the realization of the more abundant life and greater human happiness. In every human being there is the spark of God. An attitude of realizing and practicing this belief is an essential foundation for the role that every one of us has in dealing with each other.

Let's consider some simple yet infinitely important attitudes in the human relations between industrial managers, employees and union leaders. I always try to stress the positive approach—down-to-earth attitudes that can succeed. Here are some of them.

First—Mutual Acceptance, Recognition and Confidence in Each Other:

It made a lot of sense when, some years ago, Clinton S. Golden said, "The time has come (in industrial relations) when, instead of looking into the causes of conflict that we know and read so much about, we ought to try to discover how much peace there is and what makes peace." The outcome of this was that the National Planning Association established a "Committee on the Causes of Industrial Peace Under Collective Bargaining," comprised of experts from labor, industry, universities and professions, and studied 18 companies in which managements and unions have achieved "working harmony." The United Steelworkers of America had contracts with four of these companies.

The first two distinguishing characteristics reported in all 18 cases of "Industrial Peace Under Collective Bargaining" were these:

"1. A wholehearted acceptance of collective bargaining by management, coupled with the conviction that a strong union is potentially an asset in running the business.

"2. A recognition by the union that its survival and the welfare of its members depend in large measure on the prosperity and well-being of the employer."

It has been my observation that a great deal of the troubles which in the past have been brought down upon enterprises and the people could have been averted simply by genuine recognition that the right of collective bargaining not only is the law of the land, but is sound, essential human relations. I agreed long ago that unions are here to stay.

An employer's attitude of not treating union leaders as if they were his consecrated enemies goes a long step toward decent relations, because we are not talking about a one-way, dead-end street. The attitude of the Kaiser companies toward collective bargaining is stated in a written policy as follows:

"We believe in the fundamental democratic right of our employees, subject only to applicable law, to decide for themselves whether they wish to be represented by a labor organization for the purpose of collective bargaining.

"We expect all employees in a supervisory capacity or otherwise representing the management to conduct themselves in their daily relations with their fellow employees in such manner as to secure the respect, loyalty and productivity of their fellow workers through consistent actions of fairness, honesty and human decency. Similarly, labor organizations and their representatives with whom we are working should be recognized and treated as the respected agents of our employees."

Yet it's only the beginning to reach mutual recognition between management, employees and union representatives. Among essential attitudes I would list as—

Second—Honesty and Integrity in Our Dealings Together:

The attitude of square shooting is indispensable to good human relations. Just plain honesty—telling the truth and asking for the truth in return — must be absolutely grounded in our human relations. Lest you think that I gullibly believe that every man practices the copybook maxim that "honesty is the best policy," I will say that I could tell some amazing proofs of how honesty *does* beget honesty.

Fair-dealing can evoke fairness in return. Integrity brings out integrity in others. In recalling labor leaders with whom we have bargained, I think of a classic example indicating there is none so bad that a proper working basis of honesty, integrity and decent attitudes cannot be reached. You'll probably recall the mess in the Brewster Aeronautical plant in the East during World War II. It was in utter chaos; the plant had produced only a handful of Navy Corsair planes and was squandering tens of millions. Seven managers had resigned. Workers booed the managers from the time they entered the plant till they left. The blame for the atrocious situation was heaped by Government and press upon the union leader, Tom DeLorenzo, who was called a liar, a criminal, and worse. The Navy asked me to take over the management because the planes were so critically needed for the War. In his great honesty, Phil Murray said, "Henry, you are heading for trouble if you take over Brewster. Our relations have been excellent with you and I dread seeing you get in trouble that might blow up your record of human relations." The Truman Committee likewise warned me of the dangers. Finally, the Navy prevailed upon me to take over the management. However, I was so impressed with the explosive possibilities of the situation that I refused to take it on as a normal business matter and accepted it only on a non-profit basis.

I shall never forget my first meeting with Tom DeLorenzo, the accused trouble-maker. His attitude was that all managements were dishonest, unreliable and untruthful, and only outright battle would handle management. I said to DeLorenzo, "Can't you and I work on the basis of being truthful with each other?"

"No," he answered, "it won't work. I've tried it too many times and always get double-crossed."

Quietly I said, "Well, Tom, do you think this would work? Suppose when you come in to see me from day to day and you are going to lie, you say, 'I'm going to lie to you today.' But on the other hand, when you are telling me the truth you say, 'Now I'm telling you the truth today.'"

Much to my surprise, he said, "That might work. I'm willing to try it."

Many times when he came in amid the nightmare of problems, he would say, "I'm going to lie like hell to you today! But this is my position!"

As time went on, more often he'd come into conferences and say, "I'm going to tell you the truth today."

Tom DeLorenzo had left in him some of the spark of decency that is in every human being and when appealed to, is released. The thrilling sequel is that Tom DeLorenzo pitched in shoulder to shoulder with management to do the patriotic job of cleaning up the Brewster mess. Man-hours per plane were slashed to one-third; the padded work force was cut in half; yet the production of planes was multiplied nearly 30 times.

You leaders of the Steelworkers know how ardently Philip Murray believed in honesty and the sanctity of contracts. Your President, David J. McDonald, and members of the Executive Board, are vigorously pursuing this policy of man-to-man honesty and the sanctity of contracts between employer and union. Not only are you gaining outstanding recognition among the American people, but you have the facts to prove that it pays the million and a quarter United Steelworkers enormously to live up to contracts.

In the statement of Kaiser Companies' policies, the principle of honesty is put this way:

"We believe that agreements entered into with any labor organization duly selected by our employees should be scrupulously observed on our part, both as a matter of common honesty and to enable us in good conscience to ask for the same degree of integrity from the union and employees involved.

"We believe that promises should not be made carelessly nor agreements lightly entered into, but once made should be fully and faithfully kept. Thus and only thus can we establish and maintain a reputation for honest dealing with our people."

There's no room for argument when all concerned can prove beyond doubt that the attitude of honesty contributes to the more abundant happiness and well-being of people. Let's next apply the same test to our attitudes in negotiating contracts — what attitudes result in the greatest good to people?

Third—In Bargaining, We Must Understand Each Other, Not Bog Down in Double-Talk, Nor Demand Lopsided "Victories":

It ought to be self-evident that in bargaining for contracts, we must discover the real reasoning behind the other fellow's thinking, not merely to try to outsmart each other and beat down the other fellow's views. Put the cards on the table, face up. The nation has been crippled by paralyzing strikes again and again when it was to be suspected that neither side to the negotiations clearly understood what the other side was shooting for and shooting about.

To illustrate by an experience of a few years ago, when the nation was tied up in a tremendous strike. Our own companies were not involved, but every segment of the American economy was being increasingly affected. I happened to meet the President of the industry

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80 Wacs Replace EM At Ft. Dix Desk Jobs

Ft. Dix, N. J. (AFPS)—Eighty male clerk-typists here have been replaced in their jobs by Wacs. The men are headed for administrative jobs in training regiments.

The Wacs just completed their basic training at Ft. McClellan, Ala.

involved at dinner, and I soon discovered that here was a case where the reasoning on each side was not recognized by the other. I asked him, "Do you really want to settle this strike?"

He said, "Of course I do."

I asked him if he had talked it over with Phil Murray, since it was a CIO Union striking in a major industry. He said, "No."

I said to him, "If arrangements were made, would you be willing to meet him and really honestly discover the reasoning on both sides?"

That simple dinner conversation, followed by a telephone call to arrange an appointment, broke the no-talk marathon.

The next day all sides flew to a common meeting place and in a few hours and with the cards on the table, settled a very costly strike. It was as simple as that—getting two men to talk fair-mindedly together. It is so easy to get angry. "Whom the Gods would destroy, they first make mad." It takes more patience to find out what makes the other fellow tick and what he really is after.

Not long ago while in New York, a phone call advised me that one of our plants was shut down by a secondary boycott and picket line called by an outside union with which the company had no dealings. Upon my return the next day I decided that before I even went to the office I should see the outside union leader who had forced our employees out of work. I climbed the flights of stairs to his office. He failed to see me at first. He finally walked in and growled and said, "I suppose you came here to tell me I'm a lawless guy."

"No," I said, "I don't have to tell you that, because you already know it. And neither did I come here to tell you we're going to sue you and collect heavy damages. I came here simply to understand you and your reasoning, and to find out if I could be helpful."

The peaceful settlement that resulted took an undreamed-of turn, but that's a long story. My thrill came in once more discovering that the inherent good in man can be brought out even from one who is ruthless in a battle. Why do we so often let our attitudes bring out the worst in each other, instead of the best? It's usually no solution to run to court or the Government, or haggle over legalistics, or draw lines of arbitrary stubbornness. Name-calling needs to be replaced in negotiating by hard-headed discussions of the facts and realistic trades. The results of bargaining should be good for both sides, rather than a lopsided victory for one side. This thought runs contrary to popular opinion that unions only "take", but never give in return. There are always a great many possible alternate solutions in negotiations.

● The Navy wants its Project Vanguard scientists to take on an extra job: designing an intermediate range ballistic missile. The rocket men argue they can't handle that assignment and still launch the satellite on schedule.

Enlightened company and union representatives go into bargaining with a knowledge built up over a period of time as to each other's wants, needs and probable position on issues that will arise. If there is a mutual desire to find out what are better bargains for each side, the chances are stronger for an equitable settlement.

It decidedly *is* possible to bargain for cooperation, instead of armed truce and warfare. However, I must admit that it takes a lot more work to overcome old ingrained attitudes and pressures and to bargain for working harmony and fairness. Those brought up in years of industrial civil war may find it hard to adjust to the attitudes and conditions for peace.

Leaders of a union that is weak, torn with factional politicking and internal conflict, may feel they have to put on a brawl to hold the support of the rank and file. We do have problems on both sides in following the road of stability. Maybe the psychiatrists and psychologists at this Seminar can tell us how unionists can deal for the best interests of their members, yet not get themselves tagged by disgruntled self-seekers as "selling out to management."

Managers of companies that have harmonious human relations likewise may be unfairly accused of "union appeasement." It is no genuine service to employees for a company management in lush times to "give away their shirts," tolerate loose production standards, spinelessly permit foremen to be overrun, and allow costs to get out of line—just to keep an unsound peace. Because, with the first blush of stiff comptition, such abuses can put both union and company in hot water, if not even wreck the company and throw the workers out of jobs.

Decent dealings can go to pieces if either side takes the other for "an easy mark."

Sincerity and decency are not weakness.

In all 18 case studies on "Causes of Industrial Peace Under Collective Bargaining," this third distinguishing characteristic was reported:

"An awareness by both parties that, while their basic objectives may conflict in important areas, it is usually possible to work out compromises which allow each side to advance its interests in a reasonably satisfactory manner."

An atmosphere or haranguing can blot out how many basic objectives there are on which management and employees *can* agree. We ought to be able to agree that a company with high productivity is best for the employees, as well as the stockowners and public. We ought to be able to agree that there's only one way to raise the standard of living and real wages, and that's to produce more things more efficiently for more people.

People lead happier lives – and that's what we are interested in – when they feel that they are producing and contributing to the achievements of the team. Consequently there is an inexcusable breakdown in human relations if any industry is riddled with so-called "featherbedding", slowdowns and the "take it easy" spirit. I have read that a District Director of the United Steelworkers, known as a tough fighter and bargainer, but responsive to good faith and cooperation from management, went into a plant where 35 per cent of the work force—700 men—might lose their jobs unless a certain amount of loafing was eliminated and the cost of the product de-

creased. He was quoted as saying to the members:

"You can't just loaf yourself into prosperity. You must work yourself into prosperity. If you want higher wages, better vacations, more security, a health and welfare fund, you must, of necessity, recognize that your company cannot give it unless you first give it to the company. You've got to put money in the barrel if you want to take it out."

When workers hate and distrust management, naturally they feel it is dangerous and wrong and that there is no incentive even to cooperate with, let alone to try to help management. Yet wherever the right kind of human relations are established, I have found that employees and managers *can* pull together to raise productivity and that a strong responsible union contributes strength to the business, as well as to the employees.

I recall an example of a union contributing real know-how to a project that had been called "impossible" to build. We were battling the raging Columbia River in Oregon, trying to build Bonneville Dam. We couldn't seem to get the men to work efficiently and well enough to build up the wooden cribs as fast as required to keep them from being ripped out by the torrent of water that might rise 20 to 30 feet within a day.

We had half non-union workers and half union men. My son Edgar and I went to the Carpenters Union business agent in Portland—old Slim, and Slim said, "The trouble is you don't have all trained union men and union foremen."

"All right," I said, "You feel you know what's wrong and how it can be done right. We'll make it an all-union job and put it right up to you. You hire whom you please; you know skilled workers. You run the employment."

The union took up the challenge. We had been able to put up only 25,000 feet of timber a day, but after we unionized, that soared by four times to 100,000 feet right away. The raging Columbia was harnessed.

In one area, our men encountered the fiercest testing-out of their lives for our simple philosophy that if you treat people right, you'll be treated right too. More than once I found our labor relations and supervisory staffs apparently completely frustrated, baffled and licked. Once, I dropped in on a meeting with the union's grievance committee.

Now, my conception of the grievance machinery was—and still is—that it provides a method of assuring fair treatment for all. It's a way to get things off our chests and to remove the irritating pinpricks. Only in an atmosphere of inter-union politicking, or ideological warfare, or years of bad blood, or power pressures against an employer, are unions apt to swamp the grievance machinery with an avalanche of real or imaginery grievances, or what's called "bum beefs". When attitudes are right, legitimate grievances are screened out from the bad ones and corrections are speedily forthcoming. No time is wasted sparring for position. Everyone jumps in, and finds out, "What's the problem and what will it take to solve it?"

At this particular grievance meeting, though, I never in my life heard such moaning about problems . . . a mountain of problems . . . a deluge of problems . . . a cyclone of problems.

I spoke up from my heart to the beaten or bitter men around the table: *"Problems are only opportunities in work clothes."* I poured out what problems had meant in my own life: Apparent disasters can teach us lessons that will convert setbacks into success. Problems, faced up to, can make men out of us. Problems of human relations offer the most stimulating opportunities in life. I never pleaded so hard for fellows to seize upon their problems as the opportunity and the challenge to rise up like men.

Late that night, hours and hours after I left the grievance meeting, I met the grievance and labor relations men walking down the hall. They looked dogged tired, haggard and limp wet, but each one grinned from ear to ear. "Where've you been all this time? What's happened?" I asked.

"We've just finished solving our opportunities," they exclaimed. Looks of personal triumph and satisfaction glowed in their faces as they repeated, "Solving opportunities!"

That's become a slogan around our organizations. You might just get a lift out of the thought when you go back to "solving opportunities", because the opportunities in the field of human relations have barely been touched.

The manager and union leader who helps build a better way of life within industry reaps the inner satisfaction of being of great service to modern man. We have advanced phenomenally in material progress, and we are always doing better in human relations. Where do we go from here?

I envision the dawning of an era in which we will make discoveries as great about the pursuit of more abundant human happiness as we have in material civilization, indeed even more precious discoveries. It is true that "there is more to living than making a living", for nothing is truer that "man does not live by bread alone". The individual needs to feel that his job is important, that he himself is, in fact and in truth important. There are infinite ways in which to increase the meaningfulness of life for modern man, and the factory-place abounds with the opportunities.

Let's be sure to consider people as individuals, not merely as groups. How can we help the man on a simple, routine job have a feeling of dignity and usefulness? The opportunity for promotion is vital to job satisfaction. Seniority rules should not be made so inflexible as to stifle the individual's chance to advance. True and equitable incentive plans add zest and the quickened spirit of enterprise to one's work. Employee training courses for orientation, supervision and promotion can enhance people's sense of participation.

Man craves a sense of participation and belonging—belonging to a good family a good union, a good

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● Interest is growing in aircraft which can land and take off in about 200 feet, now that vertical takeoff aircraft have been labeled premature. Among the aviation firms working toward development of short takeoff and landing (STOL) aircraft are Fairchild and Ryan.

company, a good neighborhood and a good community.

The employees' job in life is enriched when he can be loyal both to his union and to his company. The individual doesn't have to be torn between choosing one "side" or the other, when the relations and conduct of both company and union are right. He can be proud of both—proud of a free democratic organization that protects and advances his interests; proud of a company that is fair and square. In the midst of conflict, the individual's future is uncertain. In peace, the individual is relieved of tensions and achieves greater peace of mind. He goes to work happy and fresh, relishing the tonic spirit of his co-workers, exhilarated by the boundless adventures and fun that life offers.

When less and less time is squandered in giving folks ulcers over labor relations, we can spend more and more time opening up brand new avenues of cooperation that are good for all. We must do a lot more about keeping employees informed—informed of the philosophy, economics and worthwhile contributions to society behind their work and enterprise. People feel better when they believe in the things they are doing. People take satisfaction in helping their neighbors build a better community.

Our dissatisfied contentment with life is a spur to create a better physical and spiritual environment for ourselves and children. We are demanding still more of life. We are not satisfied to drift into needless man-created depressions. We know that our ability to produce and distribute constantly more of the good things of life need be limited only by our will to work and the courage to open vast new horizons.

In his last speech the evening before he died, Philip Murray declared that America "is going to march ahead", and he predicted that the people are going to get "more and better medicine". Good medical care and protection against the hazards of illness can be placed within the reach of all. Just this month Congressmen asked me to testify in Washington on how doctors of this country could provide the kind of prepaid medical care that is now being supplied 416,000 West Coast people by the Kaiser Foundation Health Plan and Hospitals and by partnerships of doctors. One after another labor leaders followed and testified that millions of Americans are seeking this type of comprehensive prepayment, group practice health coverage for their families.

Philip Murray, in that last speech, declared the function of a trade union—and I think it's the mission of our entire democratic society—is this: "to feel the pulse-beats of the people; to live close to the people; to understand the people's problems . . ."

In our industrial relations, let us keep close to people—to individuals in a time when modern man, the jittery master of his own fate in this atomic age, *must* retain confidence and rekindle faith in himself. Let's feel the pulse-beats of the people and understand the needs of the human spirit.

The greatest progress ahead will be in the realm of the human spirit and human relations. We can each of us be a part of the onward march to a time of far greater human understanding, for the brotherhood of man must spring from the individual human heart.

As we go back to work among people, we can take inspiration from these words of a poet:*

I sought to hear the voice of God,
And climbed the topmost steeple.
But God declared: "Go down again,
I dwell among the people."

*Lewis I. Newman

Overland Conveyor Developed To Handle Military Supplies

An overland conveyor system for transporting military cargo has been developed by Hewitt-Robins, Inc., for the U. S. Army Transportation Corps. The first projected use for the new carrier is in port areas to move cargo from unloading docks to storage or dispersal points 1 to 10 miles inland. It is believed the conveyor system can clear ports faster and more economically and with less manpower than has been used in the past to accomplish this task.

A wide variety of equipment and supplies can be transported such as drums of fuel, or palletized general cargo including ammunition, engines, food, medical supplies and clothing in unit loads as great as 3000 pounds each. Maximum capacity of the system is 270 tons per hour.

The conveyor is made in sections that can be easily transported and stored and can be set up quickly in the field. It will operate over relatively rough terrain and up grades as steep as 27% as compared with a maximum grade of about 9% for trucks and 3% for narrow gauge railways. It can follow a straight path or be curved to avoid obstacles.

Advantages of the conveyor over other methods of moving cargo from port areas to interior locations include the following:

a. Can operate at full efficiency in fog, mud, dust, darkness and other conditions restrictive or hazardous to other types of surface transportation.
b. Less affected by slowdown and stoppages caused by human fatigue and illness since it runs automatically and requires no drivers.
c. Requires less manpower and costs less money to operate.
d. Easily camouflaged, reducing vulnerability to attack.
e. Causes less damage to cargo because load is handled gently.
f. Does not require back haul and thus eliminates confusion of 2-way traffic.
g. Requires little site preparation. One pass of a bulldozer would be enough in most cases to clear a path.

A full scale prototype of the new conveyor system, 1000 ft. in length, was built in the Hewitt-Robins machinery manufacturing plant in Passaic, New Jersey and is currently being tested at Fort Eustis, Virginia, by the Army Transportation Corps Research & Development Command.

Cruisers are the general utility ships of the Navy. They can operate alone, in groups, or with the Fleet.

What Management Means to Me—

This Month:

IT MEANS PERSONAL MANAGEMENT

To Claude E. Davis
Major, ORD-USAR

The aim of every individual and family unit—sometimes a subconscious aim—is to create financial security, both for the present and the future. But what many fail to realize is that this can be accomplished with their present income through PERSONAL MANAGEMENT. By careful and intelligent management, the flow of current income can be so channeled as to provide for current needs and still have a portion left with which to prepare for future financial security. This requires thoughtful planning, sometimes budgeting, and often some small sacrifices. However, the results justify the efforts, as the only real financial security is that which you build for yourself. No matter how small the current income, future security CAN be accomplished by the average man if he is willing to apply sound management principles to his daily life, if he has the *desire* to prepare for the future, and if he has the *determination* to stick to his plans.

Even small amounts set aside out of current income can be given sufficient EARNING POWER to grow into LARGE sums for future security. Here, for example, is what can be accomplished by setting aside just $500 per year, with reinvestment of income at the indicated rates of return:

No. of Years	2%	4%	6%	8%
10	$ 5,475	$ 6,000	$ 6,590	$ 7,243
15	8,647	10,012	11,638	13,576
20	12,149	14,889	18,393	22,881
25	16,015	20,823	27,423	36,553
30	20,284	28,043	39,529	56,642
35	24,997	36,824	55,717	86,158

The table clearly shows two things: First, that even a sum as small as $500 a year can grow into a substantial retirement fund, and second, that a small difference in the percentage of earnings greatly affects the end results. A man of 35, for example, could expect to accumulate retirement capital of $56,642 at age 65 by setting aside $500 per year at an 8% compounding rate—nearly *three times* as much as he would accumulate at a 2% rate!

In putting your dollars to work there are certain basic factors that must exist in order to successfully build *future* security while protecting *present* security. Any sound accumulation program should contain all these factors:

a. SYSTEMATIC savings.
b. SAFETY of capital.
c. GOOD EARNINGS.
d. GROWTH of capital.
e. AVAILABILITY of capital to meet emergencies.
f. FLEXIBILITY—the right to change your program to meet changing conditions.

The principle of building security through personal management is particularly applicable to military personnel. The Service Man has a big jump on the average wage earner or professional man, because certain security factors are inherent in his position. His PRESENT security is provided by a steady, fixed, monthly income, with considerable job security. His FUTURE security is partially provided by a guaranteed retirement income. Unfortunately, the retirement income is insufficient to provide the standard of living to which the officer has become accustomed during the years. The retiring officer must expect to take a cut of 50% or more in his living standards. Further, the retirement income is a fixed number of dollars, which lose considerable purchasing power in periods of inflation.

However, by applying basic principles of financial management, the career Service Man can accumulate sufficient income to supplement his retirement pay, and, if there are enough years left, to entirely make up for the 50% drop in income. Outlined above are the factors that must exist in an accumulation program. But how many individuals can hope to accomplish all those things at one time? Obviously, this is the function of a second type of management—PROFESSIONAL financial management.

There are a number of means of accumulating retirement capital that apply some of these factors, in greater or lesser degree, to your money. However, the medium that possesses ALL of these characteristics to a high degree is investment in common stocks through investment companies—called "investment trusts" or "mutual funds."

Although mutual funds have been in existence for generations, their greatest growth and popularity has come within the last 25 years. Today, there are about 200 registered funds in the country, with combined assets of over nine *billion* dollars.

The principle of the open end mutual fund is simple. You purchase shares of ownership of a fund. The money you thus invest is diversified among the securities of many companies. The fund management continuously watches those securities, changing them when necessary, to see that your money has the greatest possible earning power, consistent with growth and safety. The earnings received from the securities are pooled, and paid out to you after deduction of nominal operating expenses.

At first glance, this might seem to be paying an unnecessary cost to a "middle man." However, you are merely joining with thousands of other small investors to gain the diversification and professional management that you could not afford alone. The record shows that the average individual is FAR better off to take advantage of the skilled and experienced investment analysis and the extensive research facilities of a mutual fund than to attempt to "play the market"

(*Continued on page* 31)

SERVICE SCHOOLS

Command & General Staff College, Ft. Leavenworth, Kansas. The Associate Command & General Staff Course 56-1 graduated 270 officer students last month and the new class 56-2 began on 4 January. The Associate Courses are held concurrently with the Regular Course.

The Signal School, Fort Monmouth, New Jersey. The Department of Non-Resident Instruction announced a new record recently when 95 students, from all parts of the world, signed up for extension courses in a single day. Designed to offer as near as possible the same course given resident students, the program has been widely accepted not only within the Signal Corps, but with other branches of the services. Meeting the problem of keeping Signal Corps personnel informed of the latest tactics and techniques, the non-resident courses greatly augment the number who can take the regular program.

Smoky Hill Air Force Base, Salina, Kansas. Colonel Jack L. Randolph, USAF, Base Commander, recently presented diplomas to 27 men, the largest class to be graduated from the 802d Air Division Leadership School. Speaking at commencement exercises, Colonel Randolph stressed leadership and tolerance in an inspiring talk.

Great Lakes Naval Training Center, Illinois. A four-week journalism course for personnel on recruiting duty has been established by the Navy at this installation. The first class convened last month, and is designed to meet the need for additional public relations experience among recruiters.

The Transportation School, Fort Eustis, Virginia. Brigadier General Frederick T. Voorhees, USA, has assumed the position as Commandant of the Army Transportation School. General Voorhees succeeds Colonel William B. Bunker, who is now Commanding Officer of the Transportation Supply and Maintenance Command in St. Louis.

Air Force Provost Marshal, Washington, D.C. A special refresher course for Air Force Provost Marshal's, is being contemplated at Parks Air Force Base, California. The course of three or four weeks duration, will be opened to Captains through Colonels who have not attended Provost Marshal Course OA 7711, which has been closed for over a year. Brigadier General W. L. Fagg, Air Provost Marshal, has announced the course, if established, will cover all aspects in the field, with emphasis on security and ground defense operations.

Army Intelligence Center, Fort Holabird, Maryland. A new course of instruction in the review and evaluation of personnel security information, started last month for 15 military and civilian personnel charged with final analysis and adjudication of personnel security cases. The course which is the first of 10 two-week sessions, includes instruction in jurisdiction and liaison, regulations and laws, legal principles, investigative techniques, and practical exercises in evaluation and adjudication.

Submarine School, New London, Connecticut. Albert Pratt, Assistant Secretary of the Navy, was the guest speaker at the graduation exercises for the 101st Submarine Officers Class. Captain Walter F. Schlech Jr., USN, Officer-in-Charge of the School, announced that the 121 graduates included four medical officers, one Venezuelan and two Peruvian officers.

3500th Pilot Training Squadron, Flying Training Air Force. Forty-six new second lieutenants were added to the Air Force upon graduation of Class 56-F in recent ceremonies at the Base. Colonel James F. Mears, USAF, Wing Executive Officer, introduced Rev. David L. Zacharias, pastor of the Westminister Presbyterian Church, who was the guest speaker.

U.S. Military Advisory Group to South Korea. A Supply Management School for the South Korean Army, patterned after the Army's School at Ft. Lee, Virginia, opened its doors to the first class early this month of 25 Korean Army Officers. Colonel Harold C. Parsons, USA, with four assistants, will serve as the first instructors of the school, eventually to be replaced by Korean officers.

Advanced Survival School, Stead Air Force Base, Nevada. Student participation in the interrogation phase, which has been on a voluntary basis, as been temporarily suspended to determine if the same results can be obtained by instructor-demonstration. The school, long recognized as one of the finest demonstrating communist techniques, boasts an excellent escape- and-evasion course.

The Infantry School, Fort Benning, Georgia. Colonel William H. Billings, has been named as the new director of the Tactical Department in a recent announcement from the school. The Infantry Heavy Mortar Officer course, and the Infantry Operation, Intelligence and Reconnaissance course have been discontinued. A new two-week Infantry Officer's Common Orientation course which will replace all present refresher courses is contemplated.

ARDC NCO ACADEMY, Kirtland Air Force Base, New Mexico. The recent graduation of the eighth class at the Command's NCO Academy, marked the first year of operation and brought the total number of graduates to 483. Brigadier General J. Stanley Holtoner, USAF was the featured speaker at the colorful exercises.

United States Coast Guard Academy, New London, Connecticut. Examinations for the more than 400 applications for entrance to the Academy will be given late this month. Applications exceeded last year's, however the proportions

from men within the other Defense services were less than expected.

Crew Training Air Force, Randolph Air Force Base, Texas. Two new advanced pilot courses and ten new short (two week) courses for Reserve officers and airmen have recently been announced by Crew-TAF. The new F-100's will be used at Nellis Air Force Base, Nevada to train pilots currently on flying status, proficient in fighter aircraft within a Tactical organization. The six weeks courses will start every 30 days and quotas will be controlled by HQ USAF. The second new pilot course is designed to train basic pilot instructors in multi-engine conventional aircraft.

Goodfellow AFB and Reese AFB in Texas, and Vance AFB in Oklahoma will be utilized.

Army Language School, Presidio of Monterey, California. The Language School celebrated 14 years of operation recently by graduating the largest group in the school's history as 103 officers and 493 enlisted men received diplomas. Bringing to 17,000 the total number of linguists trained since 1941, the school has a faculty of approximately 500 instructors and a student body of more than 2000.

3500th Pilot Training wing, Reese Air Force Basse, Texas. S/Sgt Lynn D. Clement USAF, recently became the 1000th student to graduate from the Base Management Course. First initiated in 1949, 1015 first line military and civilian supervisors have completed the course. In addition to this, the fall session of the Managment Seminar, graduated an additional twenty-three students, making it a busy month for management-conscious Reese Air Force Base. Proof that a management program will pay-off are these statistics: Between 1953 and 1955, the assigned strength of the Base has been reduced by 744 persons; During Fiscal Year 1955, 23.2 per cent of assigned employees submitted improvement ideas with an adoption rate of 38.5 per cent and estimated annual saving of approximately $33,000. With the full support of Base Commander Colonel C. P. West, USAF and the valuable assistance of the faculty of Texas Teck, management literally makes "cents" at Reese.

Oakland Army Terminal, Fort Mason, California. Two important courses are under-way at this installation designed to assist management. The first consists of 75 military and civilian personnel of the Supply Division who are enrolled in a 10-week special course covering all phases of Army supply procedures. Under the direction of Major Dixie C. Chadwell, Chief of Division Stock Control Branch, the course which includes the best management practices, has been enthusiastically received. The second course in fund availability and procurement procedures is being presented to company grade military personnel and key civilians, is headed by Lt. Col. H.O.E. Johnson, Chief, Budget and Funds Division.

Air Force School of Aviation Medicine, Randolph Air Force Base, Texas. A Class totaling 110 medical officers were recently graduated from the Air Force School of Aviation Medicine. 14 have been selected for overseas assigments and three retained on the faculty of the school.

Communication Officers School, Marine Corps Schools, Quantico, Virginia. Commemorating the late Major General Merritt A. Edson, USMC, Medal of Honor winner, the building housing the school has been dedicated as Edson Hall. Lt. General Gerald C. Thomas USMC, in delivering the dedication address, pointed out the excellent use General Edson made of communications in battle.

Air Force Academy, Lowry Air Force Base, Denver, Colorado. Full accreditation for the Air Force Academy will be possible by graduation time in 1959. New colleges have to be in existence four years before they can qualify for academic accreditation. The Academy will offer a bachelor of science degree.

The first submarine which actually sank another enemy vessel during wartime was the Confederate HUNLEY built during the Civil War. The Union frigate HOUSATONIC was the victim.

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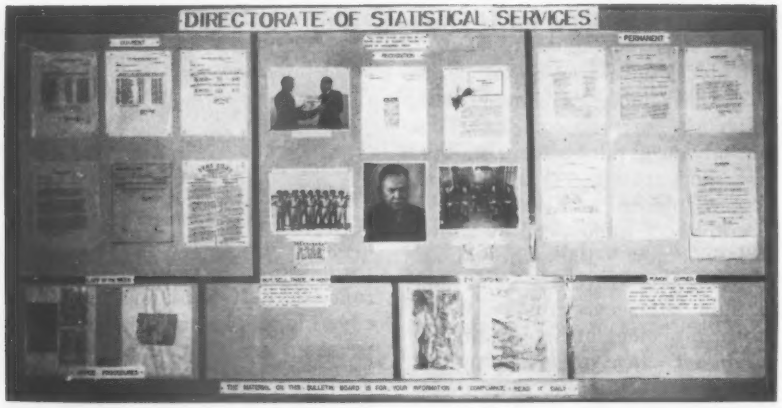
Northrop Interceptor Entry to Incorporate New Air Safety Features

HAWTHORNE, Calif.—Northrop Aircraft's entry in the current U.S. Air Force competition for a long-range interceptor design is expected to be one of the first aircraft designs incorporating the new air safety philosophies of the Air Force's flight safety experts.

Northrop designers assigned to the LRI program attended a special symposium conducted by the Directorate of Flight Safety Research at the Northrop plant in Hawthorne in order to acquire latest information on safety hazard elimination.

Brig. Gen. J. D. Caldara, commander of the flight safety research organization with headquarters at Norton Air Force Base, emphasized the directorate will in the future devote a large share of its activities toward aiding the contractor to eliminate safety hazards while the design is on the drawing board. Northrop's participation in the symposium was co-ordinated by George Russel supervisor of air safety engineering.



The Bulletin Board is Our Best Communications Device!

By Colonel Harold B. Simpson, USAF
Director of Statistical Services Headquarters, USAFE

1. Good communications, I think, is one of the principal keys to successful manpower management. When discussing the subject of communications usually little or no attention is paid to what I consider the best communications device available–the common everyday bulletin board. The Bulletin Board when properly located, developed, dressed up, and maintained is the best median available to disseminate written, unclassified information to the largest number of people in the shortest period of time.

2. The Directorate of Statistical Services, Hq., USAFE is a rather complex organization of 185 people divided into three staff groups and three line divisions, the latter being broken down again into seven branches. In an organization of this size and complexity there is a vital need for a simple, fast and accurate communications link between top management, middle management, and the worker. While we utilize in our Directorate all commonly known communications devices – conferences, staff meetings, house organ, memoranda, organizational letters, orientation briefings, and a host of others, we have found that the ordinary bulletin board with some window dressing does the fastest, cheapest and most accurate job of communications for us.

3. Essential factors to consider when setting up the organization bulletin board are:

a. *Location.* It is important that the bulletin board be located in a central position within the building where it will be readily available to the greatest number of persons.

b. *Attractiveness.* Nothing is less attractive than a sloppy, ill-kept board. On the other hand a well arranged, neat, colorful, attractive board is a pleasure to read and *will* be read.

c. *Lighting.* It is essential that the bulletin board be well lighted. Few people will get "the word" if they have to use a flash light.

d. *Height.* The Bulletin Board should be at such a level that all information thereon can be easily read from a natural standing position.

e. *Compartmentation (Homogeneity).* Like material should be arranged together. This is not only important from an emphasis standpoint, but it enables the reader to quickly pick out sections of the board which particularly interest him.

f. *Currency of Information.* It is imperative that information be taken off the board as soon as it is outdated, and important information placed on board as soon as possible.

g. *Importance of Information.* Only essential information should be posted on the board. The Bulletin Board should not be cluttered up with non-essential information just to fill up space. Each piece of material should add to the attractiveness or to the essentiality of the Board.

4. When designing the organization Bulletin Board it should be done with an eye toward attracting the greatest number of people possible. Our philosophy is that if we can bring the man to the board, chances are that he will read it. We have attempted to solve the problem of bringing the individual to the board by the following means:

a. *LAFF OF THE WEEK.* This Section of the Board is dedicated to the display of cartoons. These cartoons are all in the management field so they serve the double purpose of attracting readers because of their humor and at the same time pointing up a management concept. This section of the board is changed on a weekly basis.

b. *EYE CATCHER.* This Section of the Board is used to display "Glamorous" Cartoons, drawings and pin-ups. Items posted here are also changed on a weekly basis. Need we emphasize the attractiveness of this Section of the Board.

c. *BUY, SELL, LOAN OR GIVE AWAY.* A Classfied Ad Section always attracts the curious. This section besides attracting readers performs an essential function or service for the personnel of the organization. Classified Ads are left on the board for one week unless officially renewed for a longer period of time.

d. *RUMOR CORNER.* This Section as the one above performs an essential organizational function; that of isolating and answering rumors besides attracting read-

ers. Rumors can affect the morale of an organization, thus I think that it is important that there be some media through which they can be made known and answered by the front office—this is one media. If a rumor is posted in this section and signed by the poster, it will be answered by the Director within 24 hours. Rumor and answer remain on the board for one week after posting.

5. Now that we have listed the four features which are designed primarily to attract personnel to the board, let us look at those sections of the board which we particularly want our personnel to read or see. The three main sections of the Bulletin Board include one for current postings (normally left on for one week), one for permanent postings (normally will remain on for one month or until outdated or superseded), and last, but probably the most important, a section devoted to recognizing individual or group achievement. Type of information posted in the above sections is as follows:

a. *Current.* Rosters, pay call announcements, special event notices and things of this type are included under this category.

b. *Permanent.* Pertinent Memoranda, Standard Operating Procedures, list of off-limit establishments and data of this nature is included under the Permament Section.

c. *Recognition.* Inasmuch as "Recognition Perpetuates Good Performance," this section of the board is of great importance. Here are displayed photos, newspaper clippings and letters of appreciation. Examples are pictures of graduates of the various training courses conducted by the Directorate, the most recent Directorate graduate from the USAFE NCO Academy, recipients of The Airman of the Quarter Awards, and the Commendation Medal; local newspaper clippings telling of the achievements of the Directorate or of individuals or groups from the Directorate; and letters of recognition from the Red Cross for our contribution to their program, the names of blood donors, etc.

6. A sampling of the personnel assigned to the Directorate indicates that the bulletin board is read regularly by the majority of people, and that they like the new look.

7. The Board is maintained by the Non-commissioned officer in charge of the Management group, and nothing is posted on the board without his approval. Once the board is set up it takes on the average of about one-half hour a week to maintain—a cheap price for good communications!

Cargo Ship Speed To Be Raised

NEWPORT NEWS, Va.—A $2,600,000 conversion program for a familiar World War II liberty ship is underway at the Newport News Shipbuilding and Drydock Company plant here.

The program, while it has no direct military significance, is expected indirectly to affect the Navy's problem of protecting the cargo types in convoys. It is expected to increase the speed of the lumbering 10-knot vessels to about 16 knots.

The conversion involves removal of the bow section and replacement with a new bow and increase of the ship's length to improve her sea-keeping qualities.

The new power plant to be installed is an open-cycle gas turbine unit. It will give the ship a 6600 shaft horsepower rating. The program is being undertaken under Maritime Administration contract.

Dr. O. T. Marzke Named Dir. of Naval Research

Washington (AFPS)—Dr. Oscar T. Marzke, associate director of research for materials at the Naval Research Laboratory here, has been named director of research effective Jan. 1.

He succeeds Dr. Edward O. Hulburt, who is retiring from civil service and will become the senior scientist for the U.S. national committee for the international geophysical year of the National Academy of Sciences.

USAF's C-132 Program To Be Shifted to Tulsa

The Air Force's giant turbo-prop transport, the Douglas C-132, will be produced at Tulsa, Oklahoma, instead of Santa Monica, California, in order to permit the Douglas Aircraft Company to make better use of its production facilities, the Air Force announced today.

Engineering and development of the cargo aircraft, which will have a greater range and payload capability than any other transport will also be transferred to Douglas' Tulsa plant. The C-132 has been under development more than three years.

General Nathan F. Twining, USAF Chief of Staff, told Congress last spring that the Air Force expects to increase its total emergency airlift over 50 percent by 1960 without any increase in squadrons through the use of more modern aircraft and better utilization of them.

The largest Signal installation in the Army is maintained at Camp Gordon, Ga., known as the Signal Corps Training Center.

The Weak Link

A well organized unit often becomes helpless and useless if only a tiny bit of its makeup becomes impaired. A Cadillac is a helpless piece of perfection with one flat tire or a broken down carburetor. Maybe most of a man feels like tearing things apart but if his little finger has blood poison, the rest of him will soon be planted in some doctor's waiting room. The teacher who reports, "The health of my students is just about perfect," has not spotted the kid in the back row with a late edition of measles. An entire city becomes helpless when its water works breaks down.

The reputation and character of a smooth working organization may easily become tarnished when a few members forget to remember. This little minority will loudly condemn the striking few who may idle thousands, but an impartial examiner of both minorities would report a striking similarity. You and I are just two people, but maybe the happiness of 20, 200, or 2,000 others is entrusted to our unselfish loyalty. So every one is important, charged with many responsibilities. As honored members of an organized society, you and I dare not become the weak link on the expense account of others.

Book Reviews

by D. D. Corrigan

For Manpower Analysts

"QUANTITATIVE MANPOWER ANALYSIS," by Cyrus A. Martin. (Frederick Research Corporation, 78 pages, $2.00).

Mr. Martin is a government manpower analyst and industrial engineer. This second edition of his outstanding book is designed for manpower analysts in both industry and government. This is a book that can be read, studied, and used by the technician who is concerned with the mathematics of work load and required manpower.

Charts, tables, and examples point the way for manpower distribution, or adjustment within a changing work pattern. A framework is suggested for which procedures for time and motion study and other qualitative analysis may be planned and carried out. Application of certain principles as set forth by Mr. Martin will yield dividends to the diligent reader who will take the necessary time to read "Quantitative Manpower Analysis."

Getting Executive Results

"SUCCESSFUL EXECUTIVE ACTION," by Edward C. Schleh (Prentice-Hall, 252 pages, $10.00).

The sound executive philosophy of Mr. Schleh makes the material presented in this book of value to any executive coordinating the diversified parts of management to a common goal or objective.

In any company, team, or group, nothing is actually accomplished unless some action takes place. Often desirable action is delayed, misconstrued, or postponed indefinitely. Good actions result from well laid plans, a positive approach, necessary limitations, and a clear picture of goals to be reached.

Delegating responsibilities for the best results is defined by Mr. Schlah as stating what you expect, when you expect it, and by whom you expect it. A firm basis for obtaining good results is by following the prescribed rule of errors—the person held responsible for a result will not be held accountable for small, minor errors, but will be held responsible for the over-all results and the cost in arriving at the result.

Committee action is well defined and investigated so that proper results may be obtained from committees. Simple language, enthusiasm, no lagging, clear objectives, and decisive action, are Mr. Schleh's ideas on how to get committees to run smoothly and with less problems. Mr. Schleh goes on to explain the seven techniques that get results from people, how to get the most out of your staff people, how to make your men accountable, and developing reliance in your men to do their jobs.

A good executive must be a leader, must be active in stimulating his men, and must discipline himself in his role.

This book is subtitled, a practical course in getting executive results, and it does define clearly and accurately many problems. However, today most executives do have an appreciation of the tenets as set forth by Mr. Schleh. "Successful Executive Action," would be better for the would-be-executive or the man down the line who aspires to be in a higher position but doesn't know why he doesn't get a position with more responsibilities or with more duties concerned with handling people.

He Also Led Three Lives

"THE CASE OF COLONEL PETROV," by Michael Bialoguski (McGraw-Hill, 238 pages, $3.75).

Michael Bialoguski was known to his friends and patients as an able and competent physician and a serious violinist. The members of Communist circles regarded him as a trusted and responsible affiliate. Very few people knew of his connection with the Australian Intelligence Service, the dominating factor of his life for several years.

When Colonel Vladimer Mikhaelovich Petrov walked out of the Russian Embassy in Canberra, on April 3, 1954, and asked for political asylum in Australia, one of the most amazing stories of the Cold War was told. Newspaper headlines told of the dramatic rescue of Dusya Petrov as she was being flown out of the country to be taken to Russia.

Petrov was a man high in the ranks of Russian officials. He was officially known to be a member of the Embassy, but he actually was a colonel in the MVD, and the chief of the MVD in Australia. His position made his movements in Australia unrestricted, and he need answer only to Moscow. These privileges were not widely distributed among Russian personnel. It was necessary for Petrov to understand and know the structure, pattern, and plans of the MVD, and his information of course, would be of great interest to Western nations. Petrov's defection to the West was largely a result of the efforts of Michael Bialoguski.

Dr. Bialoguski was born in Russia and lived most of his youth in Poland. In 1941 he was able to leave Russia as a refugee and settled in Australia. When he was approached by members of Communist circles and given printed matter glorifying Stalin and communism, he took his information to the Commonwealth Investigation Service. From this time on he lived three lives, separate and yet intermingled.

When Bialoguski first met Petrov he immediately liked him, and through the course of their meetings decided that Petrov could be led to the path of freedom. There was not one particular day when Petrov decided that Russia's ideas were wrong and he wanted to defect to the West, but rather a series of small and yet significant events that led to his decision. Very human and realistic events such as dissatisfaction with the way he was being treated, a recall to Moscow with ominous warnings, trouble with other Russians in the Embassy, and a glimpse of a different way of life, led to his defection.

This would be a different story if it had been written by the Security Office of Australia, or by Petrov, or by a disinterested third

party, but having been written by Dr. Michael Bialoguski, the agent involved, a personal, well decumented account is given of "THE CASE OF COLONEL PETROV."

The Full Picture

"INDUSTRIAL PURCHASING," by J. H. Westing and I. V. Fine and M.A.P.A. (John Wiley & Sons, 421 pages, $7.50).

Due to the scarcity of written material on purchasing on a large level for industry or budgetary institutions, a group of men combined their talents to write this complete coverage of purchasing from a modern viewpoint. The idea for the book was originated, planned, and written by the Milwaukee Association of Purchasing Agents and the faculty of the School of Commerce of the University of Wisconsin. A general committee and text committee were appointed to work with editors from the University of Wisconsin. The chapter outline was jointly worked out, and after many discussions and evaluations, specialists in each division wrote the individual chapters. Because of constant revising, editing, and supervision, a continuity of thought and a consistency of style blends the book into a complete pattern.

The book begins with an introduction to purchasing; covering such topics as an explanation of purchasing, organization for purchasing, and the necessary procedures, forms, and records. The majority of the book is concerned with the activities and responsibilities of the purchasing agent. The last section was designed to give the reader an understanding of basic industrial products with which most purchasing agents deal.

The writers point out that Federal purchasing has become so large and complicated, streamlining and centralization are receiving much attention. The General Services Administration, established in 1949, developed and organized a method of central buying for most of the civil departments of the Federal government. Under this system, the administrator of the General Service Agency has the authority to buy for other agencies of the government, set standards, buy for future use, and store or transfer supplies.

In regard to the Armed Forces, the authors review how each service has been responsible for their own purchasing. Before World War II buying was not on a large enough scale to have much impact on the national economy. However, with war and preparation, changes were imperative to eliminate waste and duplication. The Armed Services Procurement Act and the National Security Act resulted in new procedures. Now at least 70% of military purchases are being done by one department for all three military departments. Still there remain certain differences in the purchasing of the Armed Forces. Most of the actual purchasing of the Army is done through field offices established by the technical branches. The Navy has assigned purchasing to its Washington bureaus, while the Air Force has delegated purchasing responsibility to the Air Material Command at Dayton, Ohio.

The winning combination of the experiences of business men in purchasing and the academic teaching procedures of a university in writing a book together, results in a practical, complete, modern picture of the field of purchasing.

Little Known Facts About Government Accounting

"MUNICIPAL AND GOVERNMENTAL ACCOUNTING," by Irving Tenner. (Prentice-Hall, 569 pages, $8.65).

Practically all facts relating to governmental accounting are little known to John Q. Public, because this is a highly specialized field. Mr. Tenner's third edition is written for the student or for the person who is engaged in governmental accounting work. The book is very technical and very difficult for the average layman. It is, however, very complete and an outstanding presentation in its specialized field.

Mr. Tenner is the associate professor of accounting at Roosevelt University, and serves as consultant to the National Committee on Governmental Accounting, to various agencies of the Federal Government, and to State and Local Governments. An excellent definition of governmental accounting terminology is given along with questions and problems for the reader to solve.

Recommended Reading

"ATOMIC WEAPONS AND ARMIES," by Lt. Col. F. O. Miksche. (Frederick A. Praeger, 222 pages, $5.00).

Colonel Miksche has dug deep into the subject of atomic weapons and armies to show that new weapons and changes in tactics and organization are controversial subjects.

"THE AMERICAN WARS: A PICTORIAL HISTORY FROM QUEBEC TO KOREA, 1735-1953," by Roy Meredith, $10.00.

Four hundred scenes in American military history.

"THE CALL TO HONOUR," by Gen. Charles de Gaulle, $5.00.

The first volume of the war memoirs of General de Gaulle, starting with the preparation of France for conflict, and the story of this leader's own account of the war.

"ANDERSONVILLE," by MacKinlay Kantor. (World Publishing Company, 767 pages, $5.00).

A novel of the famous Confederate POW camp, which is appearing on the best seller lists.

"HELLCATS OF THE SEA," by Vice Admiral Charles A. Lockwood and Col. Hans Christian Adamson. (Greenberg, 335 pages, $5.00).

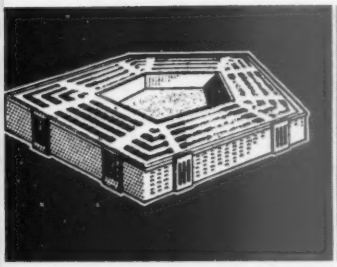
A well illustrated book on the submarine service, with emphasis on the penetration of the Sea of Japan.

"THE NET THAT COVERS THE WORD," by E. H. Cookridge. (Henry Holt, 315 pages, $3.95).

A history and description of the Soviet espionage system, with details on how agents are recruited and kept in line.

"BOON ISLAND," by Kenneth Robert. (Doubleday, 275 pages, $3.75).

Kenneth Robert's new novel is a story of shipwreck, hunger, and cannibalism, laid on Boon Island, a rocky desolate island near the Isle of Shoals.



Washington Management

Department of Defense. Defense Secretary Charles E. Wilson has ordered an expansion of the nation's ballistic missile program.

Mr. Wilson said that progress in the study and development of both long and medium range surface-to-surface ballistic missile systems over a period of years now requires expanded development and testing facilities.

The development of the longer range missiles, including the intercontinental and intermediate range missiles, has been on an "accelerated" basis for some time, the secretary declared.

He added that this program has always been designed to provide the U.S., on a priority basis, a family of ballistic missiles which will be an additional effective deterrent to any possible aggressor by increasing significantly the capability of our own forces.

All this is pursuant to our national policy of developing retaliatory power to deter aggression and thus preserve the peace, Mr. Wilson explained.

A DOD spokesman disclosed that about $1,750,000,000 would be spent on guided missile program during the 1956 fiscal year. Of this sum $1,500,000,000 will go for procurement and the remainder for research and development.

Mr. Wilson said also that specific responsibilities for each of the services would be established, with the over-all effort under the personal direction of Deputy Defense Secretary Reuben B. Robertson Jr.

Department of the Navy. In a recent announcement it has been disclosed that one of the four A-subs scheduled to built during this fiscal year will be given a fish-like hull similar to the experimental ALBACORE. It is planned that the three diesel-powered subs to be constructed next year will also adopt the new design. Offering greater range, under-water speed and improved maneuverability at approximately the same cost, it is possible all submarines of the future will sport the "new look."

Department of the Army. AR 600-55, provides for the establishment of driver testing stations at all installations, operated by the Transportation Corps. Drivers will be given a series of written tests to determine their aptitude, as well as a physical test and a road test prior to licensing.

Department of Defense. In a move to provide better and less expensive medical care for servicemen, the Defense Department has told the armed forces to begin preparing their medical facilities for "joint utilization."

A directive, signed by Deputy Defense Secretary Reuben B. Robertson Jr., states that joint use will be made of all existing medical and dental facilities, including clinical laboratories.

However, facilities still will be staffed by personnel from their respective service.

The directive calls for the hospitalization of military patients at the nearest medical facility capable of providing proper care, regardless of the individual's service affiliation.

It is based upon a comprehensive survey by the DOD and greater economy is expected. This was an objective of the Hoover Commission.

Mr. Robertson said, "we believe that this directive constitutes another forward step in our efforts to eliminate duplication and provide better medical support to our military personnel."

The army, navy and air force secretaries have been told to place the new policy into operation immediately and to assure maximum tri-service coordination.

Department of the Air Force. Beginning in 1956 the approximately 300,000 Air Force members who travel to and from overseas assignment annually, will need only one set of special orders instead of several as in the past. Under a new system, one set of orders will be cut for each individual covering travel from his old unit, through the port, and to the new organization. This will eliminate separate orders usually cut at varied moves.

Department of the Army. The Army has regained control of the 24,000 SCARWAF (special category army with air force) personnel which, since 1947 when the Air Force became a separate service, have performed military construction activities overseas for the Air Force. The move designed to achieve economy of operations and foster effective utilization of available manpower and facilities, will eliminate the present unsatisfactory arrangement. In the future, Army Engineer construction units, under Army control, will build air bases and perform major repairs in overseas areas as required by the Air Force.

Department of Defense. Directives have been issued to major Army, Navy and Air Force commanders to start planning for the observance of Armed Forces Day, May 19, 1956. A joint command, to include all five services, has been established to coordinate activities in each of seven geographical areas. A coordinating officer named for each area, will assist installation Armed Forces Day project officers in the "open house" programs. The theme "Power for Peace" will be used again this year as the slogan of the day on which the public is invited to take a close look at our national defense.

Department of the Navy. The contract to build the second stage of the three-stage rocket vehicle that will launch an unmanned satellite into outer space within two years has been awarded to the Aerojet General Corp. of Azusa, Calif.

The Navy, general manager of "Project Vanguard" for the services, said the second stage of the three-stage vehicle will consist of a liquid rocket motor.

Specialists in rocket research, Aerojet has produced the Aerobee, an inexpensive rocket used in the Navy's upper stratosphere research program.

The first stage of the launcher is a modified Viking rocket, powered by an improved motor developed by the General Electric Co. Work is already underway on this portion of the satellite program, contract for which was awarded last October to the Glenn L. Martin Co. of Baltimore.

The earth satellite is expected to reach a height of 300 miles while circling the earth every 90 minutes.

A contract for the third stage of the launcher, which will contain the actual satellite, has not yet been awarded.

Department of the Army. Major General Guy S. Meloy, Jr., former Commanding General of the 1st Infantry Division at Ft. Riley, Kansas, has assumed the duties of the Chief of Army Information and Education. General Meloy succeeds Brigadier General Theodore S. Riggs, who has been assigned to the Far East Command.

United States Marine Corps. An immediate need for naval aviators, lawyers and electronic specialists has been announced by the Marine Corps. Qualified reserve captains and lieutenants on active duty have been asked to apply for these critical categories and applications for extended active duty will be immediately considered by a standing board. Additional information is available in AlMar 36, published recently.

Department of the Army. Six field artillery battalions equipped with Corporal, the surface-to-surface guided missile, will be assigned to Europe during the first four months of this year. The units are the 530th, 531,st, 557th, 558th, 559th and 601st Field Artillery Battalions, all of which are now stationed at the Guided Missile Center at Fort Bliss, Texas.

Department of Defense. The fourth of a series of Defense-Department-sponsored meetings bringing together military planning officials and industrial executives in various parts of the country, was held in Philadelphia on January 19th and 20th. Purpose of the meetings is to keep industry abreast of the industrial preparedness program and its role in military mobilization planning. It is of particular interest to industrialists who would produce military items in wartime regardless of whether they produce defense items for the Armed Forces during peacetime.

Department of the Navy. A $100-million contract for the initial production of the F8U-1 Crusader, which the Navy calls the world's fastest naval fighter, has recently been awarded to the Chance Vought Company. In its first flight last March, the Crusader's prototype, the XF8U-1, exceeded the speed of sound in level flight.

Department of the Air Force. A new airlift regulation (AFR76-20) curtails the use of military aircraft for airlifting civilian entertainers and celebrities around the United States. Major commanders may still request permission for show lifts from headquarters, and overseas the lift rules remain unchanged.

Department of the Army. The Adjutant General, Major General John A. Klein, USA, last spring appointed a full time committee to study electronic machines for Army personnel accounting and record keeping. The committee recently completed its first analysis study, and several electronic equipment manufacturers have been invited to submit their proposals.

Department of the Navy. Vice Admiral Stuart H. Ingersoll has assumed command of the Seventh Fleet succeeding Vice Admiral Alfred M. Pride, who takes command of the Pacific Fleet Air Force on the first of the month. Ceremonies were held on board the cruiser St. Paul in Buckner Bay, Okinawa.

Department of Defense. Defense profits will be bigger under a new directive affecting about $3 billion worth of contracts annually. Instead of limiting profits to a flat 5% of costs, suppliers will be given "progress payments" as goods are delivered. Profits will be subject to renegotiation later, but estimates are that they will average about 10%.

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Department of the Air Force. Major General Frank H. Robinson, USAF, former ATC Chief or Staff, has assumed command of Crew Training Air Force at Randolph Air Force Base, Texas. General Robinson, with more than 10,000 flying hours, commanded the 44th Bombardment Group in Europe during World War II.

Department of the Army. A new Class E training film, designed to save time and expense, is being produced in quantity by the Signal Corps. Adopting the latest teaching techniques, the new films are inexpensive to produce and can be manufactured to meet sudden and unexpected requirements.

Department of the Navy. The first Navy fighter-interceptor group has been assigned to the Continental Air Defense Command. Equipped with Douglas F3D night fighters,

the unit commanded by Commander Fred L. Bates, USN, is based at North Island Naval Air Station. Responsible for the southern sector of California, the unit will be under the operational control of the 27th Air Division at Norton Air Force Base, California.

Department of Defense. Congress will be requested to increase the manpower ceiling of the Armed Forces by 50,000 during the next fiscal year. The 2,900,000 figure to be requested in the new DOD budget represents a ceiling, and strength figures will not go that high unless additional men are needed.

Department of the Navy. The Navy has awarded a $119,841,034 contract for the construction of a fifth Forrestal Class Carrier to the New York Shipbuilding Corporation of Camden, New Jersey. Awarded as the result of competitive bidding, the Camden firm was the lowest by a substantial margin.

Department of Defense. In a move to halt "questionable practices" in the sale of life insurance to servicemen overseas, the Defense Department has announced it will screen and accredit commercial firms before allowing their salesmen on military bases.

The new policy relieves commanding officers of the responsibility of licensing companies and agents operating within their commands overseas, and sets up a uniform procedure.

Conservation through Suggestions

Naval Supply Center, Oakland, California. Rear Admiral Charles G. DeKay, USN, Commanding Officer, recently presented a $650 superior achievement award check to Mr. Richard A. Maher and smaller awards to 17 other employees who worked with him, in the development of a new streamlined warehousing operation. First year savings at the Navy Supply Center alone amounted to $1,090,000, and the Bureau of Supplies and Accounts estimate Navy-wide savings at "several million dollars."

Fort Sheridan, Illinois. Five civilian employees, Charles Scherer, Royce Wightman, Howard Smith, John Burke and Clair McKee, were the recipients recently of suggestion award checks from Colonel Ralph E. Doty, Post Commander. It has been estimated that the suggestions of these winners have already saved the government $17,741.35 at Fort Sheridan.

Altus Air Force Base, Oklahoma. T/Sgt. L. J. Miller and T/Sgt Paul R. Ackley, of the 96th Field Maintenance Squadron, recently came up with two management improvements which assist them in doing their maintenance jobs at a considerable savings of time and money to the government. Sgt. Ackley designed and constructed a strut servicing cart which will save 1200 man-hours and also reduce costs in servicing landing gear struts on B-47 aircraft. An accumulator wrench was Sgt. Miller's idea, and by being able to replace the rubber diaphrams, many accumulators have been saved, again resulting in more Air Force for the dollar.

Service Squadron 2, Norfolk, Virginia. Rear Admiral John P. Womble Jr., Commander Service Force, Atlantic, recently presented the Secretary of Navy Commendation to Chief Boatswain Milton R. Pristach, for developing new refueling equipment for ships at sea. A counterweight system for keeping taut the span wire in refueling-at-sea rigs, designed by Pristach, has been approved for installation in AO-22 class fleet oilers.

Redstone Arsenal, Alabama. A new contract form calling for a given number of instrument parts to be maunfactured and kept available, offering advantages to both the maker and the user, has resulted in a savings of $12,000 during the past year to Redstone. Allowing the manufacturer a large scale production of parts on an orderly basis, with only minor peaks of activity when assembly must be performed, has given the Arsenal a lower cost and faster delivery. The unusual form of contract is for instruments used in automatic flight control and data-handling equipment.

Lackland Air Force Base, Texas. Seven military employees and one civilian employee of the Base recently were presented cash award checks totaling $165 as ther reward for management and employee suggestion improvements. $47.50 went to both Donald D. Snocker and Oscar O. Kroesche for a tool to clean and polish switchboard plugs and jacks. Estimated savings were set a $2,343 each year. Lt. Harry Kagan of the Pre-Flight Training School was the top military winner collecting $25 for improvising a score computer in grading classwork.

Naval Air Station, Pensacola, Florida. Commander James Hunt, USN, O&R Officer, recently presented Beneficial Suggestion Awards to 39 O&R employees of the Naval Air Station. Too numerous to list, the awards represent a sizeable savings to the government and a fine spirit of participation in the program.

White Sands Proving Ground, New Mexico. Brigadier General W. L. Bell, Jr., Commanding General, recently presented Mr. William T. Stauffer, an employee of the Environment and Instrumentation Laboratory, an award check for $275. The award was based on an improvement in a temperature control device, a modification of monitoring instruments permitting a saving in time, paper work, and labor. The suggestion will save the government $9,880 annually, represented the second largest award in the Proving Ground's history.

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Camp Lejeune, North Carolina. M/Sgt. M. N. LaCroix of Marine Observation Squadron One, with a discarded bomb rack, a helicopter, and a reel of wire, has designed a wire-laying device that can link widely separated Marine combat units by telephone in a matter of seconds. A demonstration staged at TRAEX headquarters and witnessed by Brigadier General W. M. Green, Jr., proved easy work of the here-to-fore dangerous wire-laying by helicopter.

Black Hills Ordnance Depot, Igloo, South Dakota. During the first seven months of 1955, 23 suggestions have been approved at this installation with a resultant savings of more than $38,000 annually. Eight employees were recently presented with cash awards totalling $975 by Colonel Paul N. Wickens, Depot Commander.

30th Air Division (Defense), Willow Run Air Force Station, Belleville, Michigan. S/Sgt. Ellis G. Rhoad USAF of the Flight Operations Section was recently presented with a Letter of Commendation and a check for $10 by Major Kenneth B. Joyce, USAF, for a dollar-saving suggestion. The Sergeant found that expensive instruments on T-33 aircraft were often damaged by the misplacement of the maintenance ladder on the left side of the fuselage, and that by painting "danger area stripes" to be used as a guide in placing the ladder, damage was eliminated.

Federal Telephone and Radio Company (IT&T) Clifton, New Jersey. President R. S. Perry, has recently introduced a program entitled "Conservation is Everybody's Business At Federal." Meetings scheduled, posters placed throughout the plant, good housekeeping to provide more productive space and the disposal of obsolete material have all proven important in annual savings.

Seattle Army Terminal, Seattle, Washington. Leading with a ratio of 8.7 suggestions per quarter per 100 military and civilian personnel, the Seattle Army Terminal last month held another award ceremony. Mr. Lyman L. Rogers and Paul F. Finley received $80 for devising an applicator for applying preservative to cables which to date has resulted in a $1112.50 savings. The applicator, fabricated from an empty anti-freeze container and pieces of wood and felt, is assembled around the cable and filled with preservative. It is then moved along the cable or the cable is drawn through it.

U. S. Marine Corps Air Station, Cherry Point, North Carolina. Here is a suggestion designed to save lives which is worthy of mention. Lt. Colonel H. Gomes, USMC, Commanding Officer of Marine Air Control Squadron 6 decided faulty vehicular equipment was an important factor in automobile accidents, and to insure that all members of his squadron had a safe holiday season, here's what he did. Three qualified mechanics of the unit's motor transport section donated their time, and, starting early in December, inspected squadron members' personal automobiles. Response of car owners was excellent, and the entire project was administered without the use of Marine Corps time, equipment or funds.

Naval Air Station, Alameda, California. Superior Accomplishment

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Awards and Suggestions totalling more than $7,000 were recently presented to 36 civilian employees by Captain L. E. French, USN, Commanding Officer. Mrs. Cathine Vigliani and Isabelle Simmons, for suggesting a new method for sorting and distribution of documents (invoices, requisitions stubs, etc.) became the first women to win the top Beneficial Suggestion Award of $300 at NAS Alameda.

Fort Dix. New Jersey. Suggestions made by civilian and military personnel have resulted in a savings of more than $31,000 during the past five months, Colonel Richard S. Crowder, post comptroller, has announced. One suggestion, a field expedient for repair of the 60mm mortar mount, has been accepted by the Department of the Army for use throughout other military installations and is expected to produce a large Army-wide savings.

Langley Air Force Base, Virginia. Major Frank Lemak, chief of the financial control team at Langley, was recently presented with the Commendation Medal by Brigadier General Edwin S. Chickering, USAF, Wing Commander. Major Lemak won the award for devising a new commercial type base-level accounting system for Air Force use.

Charleson Air Force Base, South Carolina. Robert E. Ackerman is wealthier by $225 for designing an adjustable swaging tool for sizing exhaust nipples for C-54 aircraft. The suggestion has been forwarded to Headquarters USAF for possible adoption Air Force-wide.

Kaiser Aluminum & Chemical Corporation, Mead, Washington. "The Biggest Poker Game in the World" is a novel means of stressing plant safety. Every week, each of the 1600 Mead employees finds a safety ticket attached to his paycheck. Printed with a regular playing card face, the ticket included his name and number, the date and safety slogan. By saving the cards each week for five weeks, each employee has a poker hand. Winners receive $100 certificates. An additional incentive, each week, all employee time clock numbers are put in a container, and 25 are drawn. The first 10 employees who know the safety slogan printed on their cards win $5 gift certificates.

Naval Odnance Plant, Forest Park, Illinois. Repairing torpedo boxes is an estimated $60,000 savings annually at this installation. With the plant serving as the repair center for torpedo boxes, almost 1000 boxes are received from various naval installations each year for processing. Worth an average of $91, the boxes are reclaimed for approximately $20 and made ready for issue.

The Infantry Center, Fort Benning, Georgia. Brigadier General Ernest A. Barlow, USA, Deputy Commanding General, recently presented cash awards and incentive certificates to five civilian and six enlisted personnel of the Center. Improvement suggestions of the five civilian employees will save the government approximately $2500 during the next 12 months. The six enlisted men of the Army hospital were presented Work Simplification Certificates for saving over 2,500 man-hours annually by improving hospital procedures.

Wiesbaden Air Base, Germany. Colonel James H. Price, USAF, Wiesbaden Area Commander, has announced that as a result of the base supply mechanization program, which was implemented by the 7100th Supply Squadron, annual savings in man-power costs of $50,000 will be realized by the Wing. In addition, savings of approximately $13,500 will come from a reduced requirement for office space and equipment.

The Wire and Cable Department (General Electric) Bridgeport, Connecticut. A procedure to simulate foremens' suggestions, was found last year to have saved more than $150,000. The procedure provides for a recording, following-up and reporting on foremens' ideas. Each foreman is required to make periodic cost reduction surveys in his area and is assisted by a list of 24 questions designed to stimulate his thinking.

McClellan Air Force Base, California. Robert A. Hadler, foreman of the Landing Gear unit at McClellan AFB, has developed a new set of standards for judging used aircraft tires which has been selected as the outstanding management improvement during the past three months. Instead of condemning 80 per cent of the tires on all aircraft received for overhaul as was done under the old policy, only 24 per cent are now being discarded, and those only if the cut has damaged the cord. An estimated savings of $91,000 a year has resulted from the suggestion. This is Mr. Hadler's third winner, the first cut the rate of rejection on aircraft tire tubes from 90 percent to 26.6 per cent, saving over $39,000 a year at McClellan. About a year ago, he did some research that reduced the rejection rate on landing gear hydraulic cylinders from 75 to 25 per cent, saving the Air Force $372,000 per year.

Giessen Quartermaster Depot, APO 169, New York. Mr. James M. Dugan was recently awarded an Outstanding Performance Rating and a $300 cash award from Colonel Travis T. Brown, Depot Commander, for his efforts in long-range depot planning which will save the Government $3-million within the first 12 months after completion.

Philadelphia Naval Depot, Philadelphia, Pennsylvania. Large savings in dollars and space are being reported by substituting open shelf nets. In two divisions, savings of files for standard 4-drawer cabi- $5000 and $7000 were found possible with an economy of 30 per cent in floor space.

Luke Air Force Base, Arizona. A motorized air compressor mounted on a three-wheel scooter, has reduced flight line maintenance time and won for A/1c Paul A. Patrick a Commendation Medal. A flightline machinist himself, Patrick saw the need, and worked-up the new idea even adding a grinder to sharpen tools.

Exercise Big Lick

In a given year, military personnel purchase more than $16,000,000 worth of stamps and $233,000,000 worth of money orders from 285 Army-Air Force Post Offices. Sales were made in 285 post offices in the U.S. and 32 foreign countries.

(*Continued from page* 19)

on his own. The cost is small; sales charge for the average mutual fund is 8½% of the total amount to be invested, and many funds invest your dividends for you at no charge. Over the long term this charge is actually lower than the cost of buying and selling small lots of securities on the Stock Exchange.

There are two basic types of open end funds, with variations of each. The balanced fund concentrates on preservation of capital, with less emphasis on current yield. This type of fund may hold bonds as well as common and preferred stock. The other, and more common type, is the high grade common stock fund, which emphasizes both current income and capital growth. Because of the opportunity it provides for generally higher yield and growth, we will confine our discussion to the common stock fund. Now let's see how it meets the accumulation needs of the Service Man, outlined earlier:

(1) SYSTEMATIC SAVINGS. Most such funds offer a monthly investment program. To help you save systematically, they send you monthly reminders, and offer automatic check plans or government allotments.

(2) SAFETY. The industrial giants in the portfolios of these funds are the backbone of our entire economic system. The "gross national product" for which they are responsible supports most other business, every financial institution, and even the government. If the day should come when their stocks are valueless, your insurance policies and government bonds will be equally worthless!

One of the greatest safeguards is *diversification*—the spreading of your capital among 50 . . . 100 . . . or more of these great corporations. Careful selection, constant supervision, and diversification made it possible for every open end fund in existence then to continue paying regular dividends all through the depression. This is one more example of the value of professional management.

(3) GOOD EARNINGS. The earnings on the capital you invest comes from two sources: dividends paid by the companies in the portfolio, and profits from the purchase and sale of securities in the portfolio. It is a function of the management of the fund to see that your earnings are maintained at a reasonably high level without sacrificing growth and safety.

(4) GROWTH. There are three factors working simultaneously to speed the growth of your capital. The first is *appreciation*—increase in the value of your shares as American industry grows, and the securities in the portfolio increase in value.

The second factor is *compounding*. Your earnings are reinvested for you each quarter, resulting in your earning dividends *on* dividends. This virtually ***snowballs*** your money.

The third factor is *dollar cost averaging*, which you accomplish by investing a definite amount monthly. Explained simply, dollar cost averaging means that when the price of shares is high, your fixed number of dollars buys fewer of the high priced shares, but when the cost of shares is low, your fixed number of dollars buys more of the low priced shares. Naturally, the lower the average cost of your shares, the greater the growth of your capital in a rising market.

(5) AVAILABILITY. Open end funds are required to purchase your shares at net asset value at any time you wish. This guarantees availability of your money.

(6) FLEXIBILITY. Each fund differs slightly from the others in its method of operation. These are some of the flexibilities to look for:

a. Set your own program. Choice of lump sum investment or periodic investments of as little as $10 per month.

b. Increase your payments whenever you wish. Pay your program up as fast as you wish.

c. Suspend payments whenever you wish without penalty; resume them when you're ready.

d. Liquidate any part of your investment, leaving the rest still earning for you.

e. Borrow up to half the value of your holdings if necessary.

Once you have realized how a mutual fund can help you accumulate the retirement income you need, your next thought may be, "How do I select the right fund?" First, and foremost, is to determine the policies of the management group that will invest your money, and how well they have accomplished their objectives. Since MANAGEMENT is the key to the success of any mutual fund, you must select a fund whose objectives and policies coincide with yours, and that has management capable of accomplishing those objectives. The PROSPECTUS, which the law requires be given to you before you purchase, will state the fund's investment objectives and policies, and other details.

If it is not contained in the prospectus, ask to see a transcript, or hypothetical record, of results. Be certain that the fund you select will give your money the same expert management that it took to accumulate it.

For best long range results, select a fund that emphasizes both growth and income, without sacrificing one for the other. You're wise to select a fund that concentrates on high grade common stocks—the so-called "blue chips" of industry. Most stocks of this type have been listed on the New York Stock Exchange for years, the corporations have a long time record of stability, growth, and good earnings, and also have future prospects of growth and income.

Be sure to check the prospectus to ascertain what services you are entitled to, what flexibilities you have, and what charges you pay. Because you pay a sales charge, there should be no charge for liquidation or for reinvestment of income.

Select a fund managed by a company with a number of years experience. Although size does not necessarily denote quality, it is generally wise to pick a fund with several million dollars in assets—and there are many such. And this is important: get as many of the flexibilities described above as you can. Every fund has some of them; few have all of them.

Above all, once you start a periodic mutual fund investment program—STICK WITH IT. If you pull out too soon after you start, you may lose—because you've paid a sales charge and your earnings may not yet have made up for it. Remember, your plan is a long

term accumulation program to build retirement income —not a speculation or a checking account!

Thousands of military men and women are right now investing over a million dollars a month in mutual funds, with the objective of supplementing their retirement income. The record shows mutual funds to be one of the best means of retirement capital accumulation for the average man. MUCH can be accomplished with LITTLE by exercising two types of management —PERSONAL management, in setting aside a definite portion of your current earnings to prepare for the future . . . and PROFESSIONAL investment management, to give maximum growth and earning power to the money you accumulate. Only through MANAGEMENT can the average man hope to achieve FINANCIAL SECURITY for himself and his family.

Military Financial Management At the Working Level

by Lt. Colonel C. D. Vinson
Director of Comptroller
Smoky Hill Air Force Base, Salina, Kansas

BARRING a shooting war, fiscal year '56 finds Congress more penny-pinching and economy minded than ever before. This is understandable, since the keynote of the administration is to balance the budget and, if possible, to cut taxes. However, they are now being confronted with a realistic budget requirement that will cause expenditures to exceed income by some two billion dollars! They are insisting on an all-out effort to economize everywhere possible.

Budget balancing thinkers have determined that if some way can be found to save approximately four cents out of every dollar, this two billion dollar deficit can be liquidated. And so the squeeze is on.

Approximately 65 per cent of the fiscal year '56 budget will be spent for military defense. Mathematically speaking, military defense alone will cost each man, woman and child in this country—including those in the military—more than $200! This includes the cost of foreign military aid, stock piling of strategic material, and atomic energy research. The military obviously is the most lucrative source from which savings can be effected.

Recently published figures indicate that the United States Air Force has 955,000 military personnel, 300,000 civilians, over 2,000 installations spread around the world, and a fleet of aircraft numbering in excess of 25,000. Current estimate of total resources is approximately $75 billion, based on acquisition cost, with the exception of Air Force installations which were estimated as replacement costs. The assets of the 24 largest United States corporations on almost a comparable basis were valued at only $58 billion.

Since the Air Force is receiving approximately one-half of the forthcoming armed forces budget, it will be especially vulnerable to scrutiny and criticism; however, because of its emphasis on comptroller and financial management supervision, it is already well prepared to defend and justify each dollar expenditure.

Only recently have the military echelons at the lowest working level been involved with applying the dollar denominator to their operation. Heretofore, higher levels of command have been principally concerned with dollar costs, while those at the working level were only concerned with item accounting. It is surprising that this fallacious thinking has only recently been remedied. The using agency responsible for spending the funds had little concern with the cost of operations. Unit, section or activity heads working under the old concept could care less about dollar costs. They operated under the philosophy that if two items are required, it is always good policy to ask for three or five just to be on the safe side. This philosophy was usually followed, regardless of dollar costs, whether it concerned $100,000 aircraft engines or mops for the barracks floor. Under the new concept of USAF financial management system, the application of the dollar mark has served to readily highlight faults and problem areas and does much to facilitate effective planning. It is now helping to make every unit, section and activity head a financial manager. How rapidly this can be done depends principally of course, upon the appropriate commander and his belief in and support of the system. The biggest factor to overcome in applying proven financial management practices of industry to the military is still the lethargic thinking, particularly of senior members who still resist change and feel that any application of such management serves only to impede efficient military operations.

Some time ago our Air Force secretary asked the base commander of an overseas station if he knew the dollar value of his installation. The installation commander was embarrassed when the secretary pointed out that his estimated figure did not even equal the dollar value of the aircraft engines on hand. It is not enough for the installation commander to know the net worth of his installation. Financial managers can be effective only when the individual section head knows the dollar value of his operation and his monthly operating expenses.

At Smoky Hill Air Force Base, a typical SAC two-wing B-47 base, an aggressive financial management

program has been under way for more than two years. As a result, standards and dollar information have been developed and utilized that have involved and influenced personnel at the lowest working level down to the individual airman. Continuing turnover of personnel and conversion of units has necessitated a strenuous and repetitious educational program. But in spite of this, a history of reliable dollar data is being compiled upon which to make reports to commanders, both locally and higher echelons and, if necessary, to Congress and the taxpayer.

The primary mission and principal reason for the existence of Smoky Hill Air Force Base is to train B-47 combat crews and maintain both crews and aircraft in a state of operational readiness. The acid test is to insure that minimum training requirements and standards for crews are being fulfilled and that ALL effort and money expended on this station is contributing either directly or indirectly to this end. (This, in effect, means that all money and effort is supporting .054% of our personnel. It also takes 17.34 personnel to support each B-47 crew member.)

If Congress or the taxpayer wants to know whether or not the money expended during a given month was producing the "effective" flying and combat ready aircraft available to accomplish the end-product of our assigned mission, we will be able to provide computations to show not only whether we are producing more or less effective flying training required based upon dollars provided, but will also be able to provide a breakdown, dollarwise, of exactly what areas of training are weak or sub-standard. Crew members have been impressed and tend to put out a maximum effort when seeing the tremendous amount of taxpayers' dollars riding on the effective fulfillment of each training mission.

We publish quarterly financial statements patterned after that of industry showing the net worth of this station with an explanatory scheduled breakout explaining all entries on the balance sheet. We hold periodic financial management courses for base personnel and break down the taxpayer's investment to include not only the net worth and operating expenses of each Air Base Group squadron each month, but also each section and/or activity of the unit.

We compare our net worth, salaries and operating expenses with that of the local community of approximately 32,000 population in many ways, and for the first time unit and section heads begin to realize the tremendous dollar importance attached to their operation. For instance, we find that the local community spent $888,506.10 for its quarterly operation, while the air installations squadron of this base, which has comparable expenditures to the city government, spent $3,459,682 during the same period.

Take only the operation of one of our unit facilities, such as one of our dining halls, with a master sergeant food service supervisor in charge. He would be supervising a business with fixed assets in excess of $170,000, processing up to $30,000 worth of food each month, with salaries and operating expenses in excess of $7,000. This compares favorably with large commercial cafeterias or several independently-owned restaurants.

Similar financial programs are under way to a greater or lesser degree at various armed forces installations and activities throughout the world. Although still in its infancy in the military, financial management practices have already proven their value and are here to stay. Career personnel are realizing that their effectiveness as financial managers continues to play an important part in their future advancement. As a result, everybody benefits, even the individual military man who must contribute his part of the tax dollar going to the tremendous cost of our nation's defense program.

• Navy has given A-powered flying boat contracts to Martin and Convair. Navy's engine researchers are C-W, Allison, GE, Nuclear Development Corp. of America and Garrett Corp. AF has "no comment" on Martin as one of its atomic contractors. Known to be interested in possible military and civil uses of nuclear power are Avco, Bendix, Republic, Grumman and North American.

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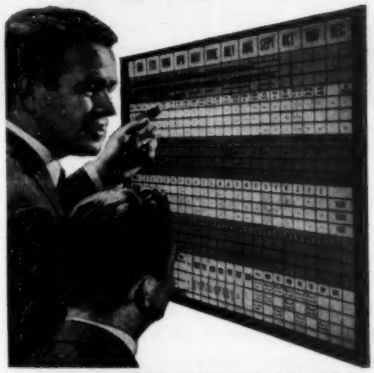

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New Electronic Lab Opened by Raytheon

An " open house preview" of Raytheon Manufacturing Company's new industrial electronics laboratory in Wayland, Mass., was held recently for civic leaders and military officials.

The $2½-million structure is one of the electronic industry's most modern and complete facilities for the engineering and development of advanced electronics equipment for both government and commercial applications.

Engineering activities formerly carried out in seven separate localities have been consolidated in the Wayland building. Most of the vacated floor space in the other buildings has already been reassigned to manufacturing and warehousing operations of the firm.

At the time of the ratification of the Washington Limitation of Armament Treaty (1922), the United States Navy was the largest in the world.

NEWS BRIEFS from the SERVICES

U.S.S. Decatur, Fore River Shipyard, Quincy, Massachusetts. The fourth ship to bear the name of Commodore Stephen Decatur, one of the most famous heroes in U.S. Naval history, slid gracefully down the ways recently well on her way to joining the fleet. The new destroyer will carry a compliment of 22 officers and 300 men.

Headquarters First Army, Governors Island, New York. New reflective type registration bumper stickers have been adopted and are being installed on privately-owned vehicles registered at First Army installations. The only exception will be privately-owned vehicles bearing New Jersey license plates, where use of reflective stickers on the front bumpers are prohibited.

513th Troop Carrier Group (Assault) Stewart Air Force Base, Tennessee. The 513th recently became the second unit to be equipped with the Fairchild C-123 transport upon its activation by the Tactical Air Command. The organization will be assigned to the 18th Air Force's 314th Troop Carrier Wing.

USCG Yakutat, New Bedford, Connecticut. The Yakutat returned to port recently after completing her third Christmas on Ocean Station Delta about 1000 miles east of Boston. Very few of her crew of 146 officers and men now aboard were with her on her previous two lonely holidays at sea. Commanded by Commander Corliss Lambert, USCG, the Yakutat, like her sister ships on ocean station duty, are a most welcomed beacon for ship and aircraft crossing the high seas.

Military Personnel Records Center, St. Louis, Missouri. Rated among the 20 largest buildings in the world, the new Armed Forces Personnel Record Center, built in two years under the supervision of Army Engineers at a cost of $12,500,000, is in full operation. With over 1,280,000 square feet of usable floor space, more than that of the Empire State Building, the new building is second in size only to the Pentagon among government constructions.

Army Transportation Arctic Group, Thule Air Base, Greenland. A historic crossing of the north Greenland icecap was recently completed by this special unit engaged in conducting research and development operations in connection with Arctic surface transportation. Commanded by Major Fredric D. Kirk, a party of approximately 20 military personnel, established several records including speed, in their 1200-mile trek on the high ice cap.

Naval Air Station, Cecil Field, Florida. Captain Carl R. Doerflinger, USN, recently from the Aircraft Carrier Hancock, has assumed command of the station. Captain Doerflinger relieved Commander Cecil V. Johnson, USN, who returned to his job as executive officer.

Army and Air Force Exchange Service, New York City, New York. A field test of two basic models of PX mobiles is being conducted to determine a standard design for all future PX's on wheels. Major General H. L. Peckham, Chief, Army and Air Force Exchange Service in making the announcement, pointed out the two vehicles being used in the test (which is being conducted in the Baltimore and San Antonio Regions), differed only in the chassis—one having a cab over the engine, the other using the conventional set back cab.

Harmon Air Force Base, Newfoundland. "Insure Your Pension With Fire Prevention" was the winning slogan that netted M/Sgt. James I. Ballou, USAF, $15 and a personal congratulation from Colonel Richard W. Fellows, USAF, Base Commander, during the recent Fire Prevention Week. During the ceremony at Harmon, Colonel Fellows awarded two plaques and a total of $65 in monetary awards.

Fort Dix, New Jersey. Many male clerk-typist of Fort Dix are headed for new job assignments following the recent assignment of 80 new WACS. Most of the new enlisted women who have recently completed basic training at Fort McClellan will be assigned to staff and administrative jobs at Fort Dix.

Fleet Air Wing 14, North Island Naval Air Station, San Diego, California. Patrol Squadrons 48, 42, 40 and Fleet Aircraft Service Squadron 110, were recently awarded the ComAirPac quarterly aviation safety award for the third quarter of 1955. This is the third award during the year for squadrons 48 and 40. The award is presented to Pacific Fleet aviation squadrons that complete one quarter of a calendar year without having an accident that can be charged to their safety record.

Army Reserve Training Center, Rockford, Illinois. Designated as "Private Rockford", Private Charles Robbins entering active duty for six months under the Reserve Forces Act of 1955, will be followed by the local press and television while at Fort Leonard Wood, Missouri. His new title and resultant publicity is designed to acquaint the citizenry with the provisions of the new law. Mayor Milton E. Lundstrom, Rockford, and Brigadier General A. T. McAnsh, USA, Illinois Military District, cooperating in the idea arranged for "Private Rockford" to have a gala week before departing even to the railroad station in a shiny new cadillac.

Loring Air Force Base, Maine. In an attempt to keep snow and ice from forming on runways and taxi strips, ten thousand feet of coils lie buried in the ice in 19 different combinations along with various types of black-top and concrete being tested by a group of engineers working at this installation. Designed to facilitate year-round use of runways, the experiments are producing some interesting results.

Headquarters Company, Sixth Army Headquarters, San Francisco, California. The men of Headquarters Company again this year presented the Letterman General Hospital with a gift, this time $342, to allow the wife or mother of a patient to spend Christmas holidays with him in the hospital. This unique gift has become traditional with Headquarters Company which started the program prior to the Korean War. The recipient of the money, is selected by the hospital staff based on lack of money to travel within the family, and whose visit will benefit the condition of the patient.

U.S. Naval Academy, Annapolis, Maryland. The Navy has entered the Academy's 71-foot yawl Royono in the biennial yacht race from Buenos Aires to Rio de Janeiro held on January 22nd. Manned by a crew of 14 naval officers and instructors from the Naval Academy under the command of Captain Warren C. Boles, USN, the Chief of Naval Operations approved the entry as a gesture of friendship between the South American nations.

Office of the Chief of Transportation, Washington, D.C. Improvement of Traffic Management during the Procurement Cycle was the subject of an Army conference recently held in the nation's capital. The conference attended by 90 traffic and purchasing officials representing all of the Army's Technical Services, was the first major meeting devoted to improving management of traffic in Army purchases.

Cherry Point, North Carolina. A Marine lieutenant colonel, one-time victim of cancer, was the subject of several movie shorts filmed by the American Cancer Society at the Air Station recently. The officer, Lt. Col., D. T. Rohrabacher, a veteran of 14 years service, was stricken with an organic malignancy during the summer of 1954. The colonel, true to tradition, not only licked the bout with cancer, but has apparently no ill effects and was recently ordered to duty with the 1st MAW in the Far East.

Aviation Supply Office—General Stores Supply Office — Naval Air Publications Facility—Naval Aviation Supply Depot, Philadelphia, Pennsylvania. Voluntary contributions from civilian and military employees of $7400, played Santa Claus for the 11th straight year to homeless children of all races and creeds.

Washington Chapter — American Society of Military Comptrollers, Washington, D.C. Colonel Albert E. R. Howarth, Military District of Washington Comptroller, has recently been named President of the newly organized Washington Chapter of the American Society of Military Comptrollers. Membership is open to civilian personnel as well as to Commissioned and Warrant Officers of the Armed Forces.

Smoky Hill Air Force Base, Kansas. This SAC base has been selected for experimentation of a new USAF ground training study which may lead to a new training concept in the Air Force. The project is designed to eliminate much of the time an airman now spends at Air Training Command technical schools, substituting therefore base level training. Similar projects are being planned at a base within the Air Defense and Tactical Air Commands.

Ladd Air Force Base, Fairbanks, Alaska. Does it pay to be outstanding? Staff Sergeant Richard H. Holden, USAF, 18th Fighter-Interceptor Squadron thinks so, and he's right! Selected from thousands of airmen serving in the Alaska Air Command for citation by Major General George R. Acheson, USAF, as "jet maintenance man of the year", Sergeant Holden and his wife were flown to the United States recently for a story-book-year-end vacation as winner of an annual award sponsored by Northrop Aircraft. Residing in a palatial suite at the Hotel Statler, the Holdens enjoyed the Rose Bowl game, visited motion picture studios, TV appearances, went to Santa Anita, Disneyland and Marineland, and toured Northrop facilities as guests of Northrop executives.

FEBRUARY BIRTHDAYS—

Army Nurse Corps 2 February 1901

Powerful Voice of Army's New Jeep-Radio Ranges 2,000 Miles

FORT MONMOUTH, N. J.—An Army jeep-radio with a range of up to 2,000 miles has been developed by the Signal Corps Engineering Laboratories here.

In forward combat areas, this extremely wide frequency range could allow constant communications between scattered infantry, artillery, and armor units for increased tactical efficiency.

Four times more powerful than the standard vehicle radio used in World War II and in Korea, the new model not only has longer range but gives clearer signals and gets through more often.

A transmitter-receiver, the jeep-mounted radio can be coupled with the Signal Corps' light-weight 100-word-a-minute teletypewriter to relay voice and teletype messages concurrently.

The new equipment makes communications over mountains or other barriers possible without relay radios and allows airborne groups parachuting with their vehicles and weapons into behind-the-lines positions to report back to command headquarters within a few minutes after landing. It operates on jeeps, tanks or reconnaissance cars.

Easy to use, the new radio has seven channels preset as in push-button commercial models. The operator—who can be taught operation of the radio in 10 minutes—merely switches to the one he wants. The radio tunes itself and its antenna automatically.

Powered by the jeep's regular battery and a special generator, the new radio operates in temperatures from minus 40 to plus 149 degrees Fahrenheit in rain, sleet or snow. By reversing a few small ventilating covers, it can be sealed for long periods.

Maintenance is simplicity itself. The defective part is unplugged—a new part plugged in. The defective item then can be sent to back-of-the-lines depots for repair.

Carrier Recommissioned

The 27,000-ton aircraft carrier USS Shangri La, outfitted with a new canted deck and steam catapults, has been recommissioned here and returned to the active fleet.

ARMED FORCES MANAGEMENT ASSOCIATION

NEWS and ACTIVITIES

INTRODUCING

AFMA'S Administrative Officer

Esther Boone Campbell

Mrs. Campbell has been affiliated with AFMA since its organization in 1953 and has served as Recording Secretary and Historian of the National Association for the past two years. A charter member of the National Capital Chapter, she served as its Director of Publicity until August 1955 when she resigned to accept the appointment as Administrative Officer of the Association by the National Board of Directors. In this capacity, Mrs. Campbell serves as coordinator of all Association administrative functions and as administrative liaison between Field Chapters located throughout the world, and the National Board of Directors in Washington, D.C.

Born in Peru, Illinois, Mrs. Campbell spent her girlhood in Spring Valley, Illinois. A member of the National Honor Society, she attended Northern Illinois State Teachers college on a scholarship award and George Washington University's College of General Studies. Her membership on the faculty of Sawyer College of Commerce at Long Beach, California was halted with the advent of World War II at which time she entered the government service with the Army Air Corps. She has been with Headquarters United States Air Force since 1950.

Mrs. Campbell is well qualified to administer the AFMA program. Her experience includes the Assistant Editorship of *The Inspector General's Brief*, Office of The Inspector General; as Administrative Officer, Presentation Support Division, Secretary of the Air Staff, she was responsible for the administration of the Chief of Staff's Orientation Program and Management Experiences Discussion Groups for senior Air Staff officers and later served as Administrative Officer to the Secretary of the Air Staff. Mrs. Campbell is presently assigned as Executive Officer for the Real Estate Division, Assistant Chief of Staff, Installations, Hqs USAF. It is this Division that is responsible for the effective management of the Air Force's 19 million acres of land.

Mrs. Campbell's ability as a manager was officially recognized at a recent Pentagon ceremony when Major General Lee B. Washbourne, Assistant Chief of Staff Installations presented her with an Outstanding Performance rating and a cash award for Management Improvement.

A member of Mt. Olivet Methodist Church and the Woodlawn PTA, Mrs. Campbell is active in the affairs of the North Arlington community in which she resides.

Adaptation of Management Engineering Personnel to the Electronic Age

(An Editorial)

Reactions to the electronics age have been mixed to say the least. Electronic computers have been welcomed as a "cure-all" by some executives and viewed as a monstrous threat to their jobs by clerical personnel. As with anything that challenges the imagination there has been more heat than light shed on the situation.

Little has been said of the possible effect of the electronics age on the systems or methods man . . . which, in the next few years will be profound. Before discussing the specific effects, however, it might be well to dispel some of the misconceptions. Will electronic machines make the techniques and skills of the system wholly outmoded? No. Systems men need not worry. The ability to analyze processes and procedures; to break them down into component parts; to discover needs; and to devise ways of satisfying needs will always be required . . . probably to an even greater extent.

The electronic machine can and should be another of the many useful tools of the systems man. His job is to help management get information that is timely, accurate, relevant, and complete, at a minimum cost. The ability of the machines to absorb and manipulate information at fantastic speeds will make them one of his greatest aids. He can use them to study present systems, to spot problem areas rapidly, and to calculate in advance the effect of solutions. His collection of data will be easier, faster, and more accurate.

Like all tools, however, they are only as useful as people make them. To be most useful they must be understood. The systems man should not stand in awe. Electronic machines are not mechanical marvels forever beyond the understanding of mere man. They are not brains. They work as a tireless clerk

who completely lacks information or intelligence. They cannot sort, file, add or subtract unless they are instructed in the most minute detail.

Therefore, so that the machines can "understand" and use data furnished them, the *systems* for the collection of data must be simplified and documented. Here is one role of the systems man. Also, systems must be carefully analyzed to guarantee that machines are not abused or underused. Systems studies are required before a decision can be made about what systems should be mechanized.

The speed and volume capacity of the machine *does* mean that the systems man will have to alter his concept of "system." He will no longer be studying small parts of total systems but will be concerned with the whole system of personnel, accounting, inventory, supply, and so on, and their relation to each other. Because of the ability of the machines to amass, retain, and readily produce large quantities of data, organizations will be drawn closer together. There will be new concepts of organization, and of administrative and service functions. To be of greatest value, the systems man will have to be more of a generalist, taking a broad, sweeping view of systems.

What should the systems man do to prepare himself. First, he should not become panicky or overawed. He will not need a complete knowledge of higher mathematics or of the intricacies of the electron. There have been changes before, and there will be changes beyond electronics. The use of paper, the typewriter, adding machines, punched card machines . . . . all have gone through a period of evolution. Although electronics promises a greater acceleration of the evolutionary process it is still only one step in the mechanization of office systems.

This does mean that the systems man should not remain passive. His field is growing and he must grow with it. He should begin now to read literature on electronic machines, to understand generally how they handle data, their limitations and capabilities. He should attend courses offered by manufacturers, colleges, and societies. He should broaden his knowledge of the large systems of his organization. He should study the results of electronic systems already in effect. He should brush up on his knowledge of statistics.

Properly and calmly studied and understood, electronics can be a shining new tool for the system man . . . . offering opportunities to explore new concepts of organization and methods . . . . while challenging his imagination and skill. The systems man who does not like, or heartily accept, the challenge of something new will get lost in the electronic age, or, more probably, is already lost in whatever he is doing.

Edmund D. Dwyer
Vice President, AFMA

CHAPTER NEWS

The Baltimore Chapter held its December dinner meeting at Army Chemical Center, Maryland. Mr. Allan R. Shilts, Treasurer of the Crown Cork and Seal Co., Inc. of Baltimore, was the speaker. His topic was "Corporate Reorganization," based upon his association with Ford Motor Company during its recent reorganization. This Chapter has followed the practice of holding each meeting at a different installation. At this meeting members of the nearby Aberdeen Chapter were invited to attend. At the meeting held at Ft. George G. Meade, the installation nearest Washington, members of the National Chapter were invited.

The Great Salt Lake Chapter held its organizational meeting on 12 December. The secretary of this organization is Mr. Paul G. Boyer, Naval Records Management Center, Bldg. B 11, Naval Supply Depot Clearfield, Ogden, Utah.

The Hawaii Chapter held a dinner meeting on 14 November with Dr. James H. Shoemaker, V.P. of the Bank of Hawaii as guest speaker. Dr. Shoemaker discussed his topic, "Defense Spending and Its Effect on the Territorial Economy" in three aspects, as follows: Background of (The Island) Economy; Inside View of an analysis of the Economy; and Comparison of Military Spending.

The National Chapter held a dinner on 1 December with Robert E. Merriam, Asst. to the Director of the Bureau of the Budget as guest speaker. His subject "Current Bureau of the Budget Developments in the Field of Management Improvement." Efforts to bring nonmembers drew an attendance of about 75. The next dinner meeting will be held at 7:00 on 2 February at the Officers Club of the Naval Gun Factory. A panel discussion will be held on "The Departmental Policy on the Use of Electronic Data Processing Machines." The panel will consist of Charles A. Phillips, for the Asst. Secy of the Department of Defense (Comptroller) acting as Chairman; Lancelot Armstrong for the Asst. Secy of the Army (Financial Management); Francis P. Di Blasi, Deputy Director for Data Processing for the Executive Office of the Secretary of the Navy; and Joseph F. Cunningham for the U.S. Air Force Deputy Chief of Staff (Comptroller). An invitation is extended to all who may be visiting Washington as well as those who are located within the vicinity.

The Personnel Utilization Division meets 11 January for a panel discussion by Army, Navy and Air Force representatives on "Career

Col. H. H. Andrae (seated), Third Army G-4 Chief, was elected President of the newly-formed Atlanta Chapter at a recent membership-organizational meeting at Fort McPherson, Ga. Other officers elected are (l/r) Mr. Ted Primevera, Third Army Comptroller Section, Secretary-Treasurer; Col. W. C. Haneke, Third Army Comptroller, Executive Vice-President; Mr. Marvin Kilgo, Third Army Comptroller, First Vice-President; and Lt. Col. J. A. Dodge, Third Army Signal Section, Second Vice-President. The Chapter has 45 members. (U.S. Army Photo)

Development for Civilians in the Military Services."

The Management and Industrial Engineering Division members gather on 19 January when it is planned that speakers from industry will discuss "Industrial Management Functions of Management Offices."

The Programming, Review and Analysis Division had a most successful meeting on 7 December. Dr. Emil Schell, Specialist on Machine Programming, Sperry Rand Corp.; Mr. Marsh Wood, Office of the Secretary of Defense, (Supply and Logistics); and Col. Robt. L. Kirby, Ch. Computation Division, DCS, Air Force used as a topic of discussion "The Application of Electronic Computers in Programming."

The Central New Jersey Chapter. Col. Carolus A. Brown, President has announced the planning of an active program for the first six months of 1956. Details on the program will be printed later. Speaker at the October dinner meeting was Edward Schulz, Director of the Radio Corp. of America Laboratories. Mr. Schulz, who was formerly an Associate Professor in the School of Business, New York University, presented the premise that communication assumes a variety of types and as such is "sorely neglected" as a vehicle which demands top management policy. An extended question and answer forum on "Communications" followed his discussion. For the November meeting Mr. S. E. Petrillo, V.P. of the Signal Corps Engineering Laboratories officiated.

The Sourdough Chapter, Alaska, held a business meeting in October, featuring a talk by Robert B. Atwood, Editor of the Anchorage Daily Times. Mr. Atwood lectured on the Alaskan Statehood issue, discussing advantages, disadvantages, and long range implications. Captain Michael F. Rembijas was appointed by Colonel Proctor as Treasurer of the Sourdough Chapter.

• The Navy has decided on Patrick AFB, Fla., as the launching site for the three-stage Project Vanguard satellite vehicle.

Helicopters Ferried by Globemasters Under Study as Mobile Striking Force

The aerial ferrying of H-21 assault helicopters by giant Globemaster transports is under study as a means of sending a highly mobile striking force to virtually any part of the world within hours instead of days, it was revealed by Maj. Gen. Chester E. McCarty, Commander of the 18th Air Force, U.S.A.F.

Tests by the 516th Troop Carrier Group at Sewart Air Force Base, Tenn., with a Piasecki H-21B Workhorse, the heavy-duty helicopter now in service with the U.S. Air Force, U.S. Army and Royal Canadian Air Force, showed that the large helicopter could be partially dismantled in a few hours and stored in the C-124 Globemaster without need for overhead cranes or other heavy equipment. It was the first time that a helicopter as large as the H-21 had been made air transportable.

Navy Benefits, Rights Told in New Booklet

Washington (AFPS)—A special pamphlet dealing with the rights and benefits of navy personnel and their families now is being prepared by the Bureau of Naval Personnel.

Based on material taken from *All Hands*. an official navy magazine, the pamphlet will be ready for distribution to all officers and enlisted men on active duty sometime this January.

It will give an informative rundown on such items as pay, commissary privileges, allotments, insurance and numerous other subjects of interest to navy personnel and their dependents.

USAF figures it will save 1,961,000 man days annually starting next year by transferring persons by air instead of surface means. . . .

Martin Appoints Satellite Operations Manager

The appointment of N. Elliott Felt, Jr., 31, as operations manager of Project Vanguard—the world's first man-made earth satellite—was announced recently by the Martin Company of Baltimore

William B. Bergen, executive vice president of the Company which will build Vanguard's launching system, said Felt has been named operations manager of the project and will direct planning, design and manufacture of the three-stage rocket which will carry the satellite into space.

Felt, who served two and one-half years as an infantryman during World War II, is widely known in the field of rocket science. He was responsible for designing the guidance system of Martin's Viking rocket, which set the world's altitude record for single stage vehicles —158 miles above the New Mexican desert.

Vanguard will be launched sometime during the International Geophysical Year—actually an 18-month period from July 1, 1957 through December 31, 1958. The satellite will be carried aloft by the Martin rocket and then blasted into its orbit where it will circle the earth at about 18,000 miles an hour.

While circling the earth, the satellite will record and transmit scientific data to stations on the earth, information on weather, cosmic radiation, and many other scientific fields.

Ryan Awarded $20 Million Contract for Douglas DC-8 Jet Engine Pods

Ryan Aeronautical Company has been selected by Douglas Aircraft Company to manufacture jet power packages for its new DC-8 four-engined commercial jet transports in an initial contract valued at approximately $20 million, T. Claude Ryan, president of the San Diego concern, announced today.

In addition to the complete ready-to-install jet power packages, Ryan will manufacture the pylon structures which support the jet engines beneath the wing. The Ryan-built jet packs and pylons will be manufactured for both the J-57 version and a later, more powerful jet engine version of the DC-8. The J-57 is a Pratt & Whitney Aircraft engine, currently used to power America's most advanced military jet bombers and fighters.

The new jet pod contract from Douglas will bring Ryan's backlog of undelivered business to more than $50 million, Ryan said.

ORGANIZATION OF THE NAVY

BUREAU OF AERONAUTICS (BuAer) The Bureau of Aeronautics shall be responsible for the design, development, procurement, production, testing, fitting-out, maintenance, alteration, repair and material effectiveness of all Navy and Marine Corps aircraft (heavier-than-air, lighter-than-air, and pilot-less), including all components and equipment thereof, and photographic and aerological equipment; the research therein and all pertinent functions relating thereto. It shall exercise management control of those commands and organizations established as separate activities of the shore establishment whose primary functions are: (1) Research in, and development, test, production, inspection, overhaul, modification, and operation of Navy and Marine Corps aircraft, (designated above) including components and equipment thereof, and materials for use therefor. (2) Photography and aerology, including research, development, and design pertaining thereto.

BUREAU OF ORDNANCE (BuOrd) The Bureau of Ordnance is responsible for the design, development, procurement, manufacturing, distribution, maintenance, repair, alteration, and material effectiveness of naval ordnance; for research in these matters; and for all other pertinent functions, including the control of storage and terminal facilities for, and the storage and issue of, ammunition and ammunition details.

BUREAU OF MEDICINE AND SURGERY (BuMed) The Bureau of Medicine and Surgery shall be responsible for safeguarding the health of personnel in the naval service, providing care for the sick and injured and all pertinent matters relating thereto. Specifications for, and the procurement, inspection, receiving, storage, care, custody, and issue of all medical and dental materials. Research, evaluation in medical science and standards of sanitation and preventative medicine.

BUREAU OF NAVAL PERSONNEL (BuPers) This Bureau is responsible for the all-important task of providing the necessary trained personnel for the Navy. In carrying out this mission, it is involved in nearly all phases of procurement, training, distribution, assignment, promotion, discipline and welfare of Naval personnel. This Bureau is responsible for transportation of personnel and management control of type installations.

BUREAU OF SHIPS (BuShips) The task of providing the Navy with sturdy, seaworthy, fast, fighting ships, and their attendant auxiliary vessels, is assigned to this Bureau, the home of the constructors and engineers. The Chief of the Bureau is also the Coordinator of Shipbuilding for the Naval Establishment and is responsible for timely delivery of materials to shipbuilding and ship-repair activities. Management control is exercised over those commands and organizations established as separate activities of the shore establishment whose primary functions are: (1) Design, commission, and repair of ships, boats and other surface and subsurface craft. (2) Research, test and development pertaining to shipbuilding, ship propulsion and equipment under its control. (3) Supervision and inspection of the foregoing.

BUREAU OF SUPPLIES AND ACCOUNTS (BuSandA) Servicing the Naval Establishment, the personnel, the hundreds of ships, stations and overseas bases, and then accounting for the proper expenditures of funds, falls to the Bureau of Supplies and Accounts. All supplies, stocks, disbursements, and storage are included in their mission. The organization and operational procedures of stevedore, longshore and loading together with preparation and service of food in general messes (except Naval Hospitals) represent two major functions of the Bureau.

BUREAU OF YARDS AND DOCKS (BuDocks) The Bureau of Yards and Docks are responsible for the design, planning, development, procurement, construction, alteration, cost estimates and inspection at all shore activities of the Naval Establishment. Public works (including floating drydocks, floating cranes and amphibious pontoon equipment assigned to the Operating Forces) construction, transportation and weight-handling equipment, utility services, acquisition and disposal of real estate, automotive vehicles and fire prevention. BuDocks, in addition to other responsibilities, takes care of the organization and equipping of the "Seabees", famed construction battalions.

MILITARY SEA TRANSPORTATION SERVICE (MSTS) This Department is responsible for all ocean transportation for the Armed Forces. MSTS provides under one authority, control, operation and administration of ocean transportation for personnel, cargo and mail (excluding that transported by units of the fleet) as authorized or directed, for other government agencies of the United States.

NAVAL DISTRICTS AND RIVER COMMANDS The fourteen (14) Naval Districts and two (2) River Commands are coordinating agencies between the Navy Department and individual shore stations. Under its Commandant, each District has a staff of officers representing in general, the various functions handled by the Bureaus and offices of the Navy Department. The mission of the Commandant in coast defense is to control the sea communications within the district, repulsing hostile attacks on the seacoast, or upon naval vessels or merchant shipping in or off harbors or in the coastwise sea lanes.

OPERATING FORCES The Operating Forces are composed of the several fleets, seagoing forces, sea frontier forces, district forces and such of the shore activities as may be assigned. Over-all command of the Operating Forces devolves on the Chief of Naval Operations.

EASTERN AND WESTERN SEA FRONTIERS Sea frontiers are Support Commands and function primarily for frontier defense, control of shipping, protection of shipping and conduct of anti-submarine warfare within the frontier waters. All naval districts have been assigned to appropriate sea frontier commanders for military command and coordination control of logistic support as between component districts.

PRODUCTS

designed to deflate production Costs

As a service to OPERATING DEPARTMENTS and PURCHASING OFFICERS, ARMED FORCES MANAGEMENT will provide you with a selected list of manufacturers' products.

How to Use Armed Forces Management's Library–

Inserted in this issue, a postage free card is provided for your convenience in requesting descriptive and informative literature. This will be forwarded to you, without obligation. Many cost saving ideas are generated by Operating Departments that have referenced information on products available. Purchasing Officials will find this type of information invaluable. All that need be done is: fill in name and address, circle that which will assist you, and drop in the mail.

SAFETY DIESEL FORK LIFT TRUCKS

Allis-Chalmers Manufacturing Company. (See cut). A new line of Safety Diesel Fork Lift Trucks which are ideal for operation in hazardous areas such as ordnance and chemical plants and installations, are available in a full range of sizes from 3,000 to 8,000 pound capacity at 24" load center. Completely eliminating any hazard due to electrical sparks, the engine has no electrical ignition system and is started by means of a hydraulic motor. The engine operation is protected by means of a water muffler which eliminates any possibility of sparks passing out the engine exhaust pipe, and the equipment is available with static conductive tires and non-sparking metal forks. Design of the combustion chamber of the Allis-Chalmers Buda Division Diesel engine assures complete combustion and eliminates smoke and objectionable odors.

For more facts request No. 1 on reply card

THE COFFEE BAR

The Bert Mills Corporation. This leading manufacturer of the famous MILK Bar, CHOCOLATE Bar, BEVERAGE Bar and COUNTER Bar, have recently announced a completely new COFFEE Bar, which serves automatically Hot Chocolate, Tea or Coffee. Complete with new coin-changer, this 1000-cup-capacity vending machine truly becomes a management tool in satisfied employees with a built-in time saver. Eliminating the messy office setups, this attractive dispenser is available at a surprisingly low cost to your installation.

For more facts request No. 2 on reply card

CORRUGATED ASBESTONE

National Gypsum Company. Has your organization investigated the modern way in the construction of buildings with the use of CORRUGATED ASBESTONE? With cost-consciousness uppermost in the minds of National Gypsum engineers, this revolutionary construction with entire walls only 2½" thick, yet fireproof, weather-resistant and maintenance-free product becomes less expensive than ordinary building. Quick to be adopted by dollar-minded industry, complete information on this Gold Bond Corrugated Asbestone, is available to you and your installation.

For more facts request No. 3 on reply card

EDISON DIAL TELEVOICE

Thomas A. Edison, Incorporated. (see cut). Every dial telephone can now be an automatic dictation instrument with Edison's new Dial Televoice complete with magnetic delay voice-operated relay. When an executive speaks into his telephone the recorder starts automatically. When he stops talking the recorder stops, too. His voice actually controls the instrument. Once connected to the central recorder, dialing is unnecessary, except for length marks or listening back. A good, clear recording is assured with a new safety system built into the Dial Televoice. A complete feature in the July-1955 issue of ARMED FORCES MANAGEMENT, demonstrated how this equipment saved countless dollars at the Walter Reed Medical Center in Washington, D.C. Full details are available by request how this can be accomplished at your installation.

For more facts request No. 4 on reply card

COVERS-ALL

Ideal Stencil Machine Company. A new inexpensive product has been developed that completely covers any marking or printing in one application, now makes reusable containers available to your organization. Thousands of otherwise perfectly re-usable containers are literally scrapped every year by shipping and receiving rooms—for no more reason than the fact that the stencilled or printed markings make these containers unfit for reuse. COVERS-ALL can be sprayed or brushed and dries ready for stencilling in minutes. It can be used

on cartons, corrugated boxes, fibre and wooden containers and metal drums. Costing pennies and saving dollars, we will be glad to send you additional information and prices.

For more facts request No. 5 on reply card

PLASTIC PIPE AND FITTINGS

Malarkey Plastics Division of M and M Wood Working Company. A new division, the 12th to M and M, has recently announced the availability of standard size plastic pipe ranging from ½" to 6" in standard lengths, both rigid and flexible, with a complete line of fittings. Weighing only one-eighth of the weight of metal pipe, the new plastic is destined for the military hall of fame. Almost non-corrosive, immediate markets have developed for the new product. Interesting and descriptive literature is available to you who, looking into the future, will see definite application to the Armed Forces.

For more facts request No. 6 on reply card

LIGHT WEIGHT SCAFFOLDING

Waco Manufacturing Company. A new light-weight Waco scaffolding has recently been announced capable of carrying more than forty times its own weight. Rated at 50 pounds a square foot, the new frames feature the "speedlock" method of construction and are built of high carbon steel tubing. Advantages of the new equipment, other than its light weight and heavy load capacity, are low cost, easier storage, and increased mobility.

For more facts request No. 7 on reply card

STEEL TRANSFER FILES

Dolin Metal Products. With the addition of 8 stock sizes of the new "G300" Nylon Glide series transfer files, Dolin Metal Products, Inc., now claims the most complete range of steel transfer files comprising 44 stock sizes in 3 different styles. The space-saving "G300" series is designed with minimum outside dimensions, channeled drawer, nylon glide bearings for smooth, quiet drawer operation, duo-division card holder enabling the use of either 2x3 or 3x5 cards and a drop handle permitting greater aisle widths. Six of the eight sizes are 2 drawer files. Low in cost, this modern equipment can be more fully understood by requesting additional information from our library.

For more facts request No. 8 on reply card

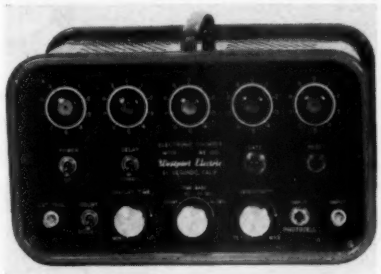
ROTOMIST MACHINE

John Bean Division of Food Machinery and Chemical Corporation. Burning piles of green wood from newly cleared land is now made much easier, faster and cheaper with a machine recently developed and available by this corporation. One man handles the whole burning operation with a tremendous saving in time and fuel oil. The machine called a No. 75 Rotomist, acts as a huge bellows to force the burning of green wood and when the operator wishes, he applies fuel right with the draft. The Rotomist blows 20,000 cubic feet of air a minute to a distance of 125 feet. Capable of extremely high temperatures this commercial flame thrower and air blast combined has proven itself in many applications.

For more facts request No. 9 on reply card

ELECTRONIC COUNTER

Westport Electric. (See cut). Westport Electric's new Model WE-120 electronic counter is an extremely compact, portable, events-



per-unit-timemeter featuring cold-cathode glow transfer tubes for digital presentation, and simplified circuitry for low cost dependable performance. The WE-120 features five decades, digital division of time base frequency (optional), variable display time and high sensitivity, all in an instrument with a volume less than ⅓ cubic foot. Complete specifications are available on this low cost counter.

For more facts request No. 10 on reply card

PROPELLER SYNCHROPHASING

Hamilton Standard Division,

ANNOUNCING THE NEW FIRE KING WITH AIR-PAK by Wheeler

WHEELER FIRE KING No. 47814

Design patented and trademark registered

***Helps you avoid the most disastrous consequences of fire**

The new Wheeler FIRE KING! Far superior to any other rescue equipment, the FIRE KING utilizes light aluminized asbestos for maximum heat reflection and mobility. The efficient Scott Air Pak breathing unit, provides cool air (not oxygen) on demand. The FIRE KING is ready for use in seconds . . . is easy to use . . . and fits all average size men (5'8" to 6'2"). Cylinder capacity provides for 15 minutes constant work inside the suit — at extreme exertion. Bullard hard hat built-in for added protection.

And the cost? Well within the budget of any fire services or institutions. Don't be without this valuable form of fire insurance for another day. Order from your jobber or write direct. DO IT NOW!

**6,300 human lives lost through fire in 1954—countless horses and livestock—millions in property.*

WHEELER PROTECTIVE APPAREL, INC.
244 West Huron Street
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PROTECTIVE WHEELER APPAREL

WHEELER

"More Safety per Dollar"

United Aircraft Corporation. It has recently been announced that it is now possible with a synchrophaser to maintain a definite angular relationship between each of the propellers on an aircraft. By selecting one engine as the master, and bringing all the slave engines' RPM's to that of the master, noise and vibration level in the airplane can be significantly reduced. Up until now only the RPM's have been controlled, without regard to the angular relationship each propeller had to the others. Adding less than 35 pounds, the synchrophaser can be valuable to your aircraft.

For more facts request No. 11 on reply card

CLOSED-CIRCUIT TELEVISION

Allen B. du Mont Laboratories. Precise control of one of the world's largest forging presses has been achieved through the use of a Du Mont closed-circuit television system at the Aluminum Company of America's works in Cleveland, Ohio. A leading manufacturer of this equipment, Du Mont equipment has found its place in large and hazardous operations in every corner of the globe. Have you an application where closed-circuit television can increase your production and add safety to your operation? Specifications and prices are available on commercial or custom installations.

For more facts request No. 12 on reply card

METRON TACHOMETER

Metron Instrument Company. (See Cut). This new Metron tachometer not only indicates speed, but actuates self-contained power relays that signal overspeeds and underspeeds. Ideal for use in sounding alarms ,turning on light signals, stopping or starting equipment, opening or closing valves, controlling speeds or for many other similar applications. High and low limit pointers are independently adjustable. These pointers act as a single-pole double throw switch with the regular speed pointer acting as the switch center arm. Available with any one of 48

different scales—marked in any rate such as RPM, FPM or Sheets/Hour, a complete brochure is available for your review.

For more facts request No. 13 on reply card

PHOTOGRAPHIC CHEMICALS

Ansco Corporation. A concise and handy 10-page booklet on prepared photographic chemicals has

THE ARMED FORCES MANAGEMENT ASSOCIATION—

IS an association to develop those skills of its members which contribute to effective and economical management in the Department of Defense gathering together the responsible officials, leaders, and co-workers who contribute to better management in meetings, conferences, seminars, and through personal contacts. Its National and Field chapter work groups and other activities offer members an unusual opportunity to participate in developing and keeping abreast of management methods and practices in the Department.

Who Belongs to the AFMA?

IF you are a member of the active or reserve uniformed services or a civilian employee of the Department of Defense, and are engaged in or interested in management and administration in the Department, you will find membership in the Association a worthwhile investment. The AFMA National Chapter is organized into seven divisions, affording members an opportunity to participate in Association activities in the subject matter or specialized field of their particular interest. Write today for particulars to the Chairman, Membership Committee, care of:

ARMED FORCES MANAGEMENT ASSOCIATION • DEPARTMENT OF DEFENSE • WASHINGTON 25, D.C.

just been made available by Ansco. Providing a compact ready reference, the booklet describes the major characteristics of the various laboratory-tested formulas together with their application. A special page at the end of the booklet offers a list of helpful darkroom tips. Available to you without cost from ARMED FORCES MANAGEMENT library.

For more facts request No. 14 on reply card

SEALTIGHT PRODUCTS

W. R. Meadows, Incorporated. The practical solution to the problem of eliminating destructive moisture in all types of construction is fully explained in the brochure "Sealtight Products For Better Construction". This brochure contains complete product information, installation information, installation drawings and architectural specifications. A copy should be in each Base, Camp and Station Engineer and Operation Section, and it can be there without obligation by requesting on the inclosed product card.

For more facts request No. 15 on reply card

420 SERIES TRACTORS

John Deere & Company. The new handyman John Deere "420" Series Tractors — Crawler and Wheel-Type—are now in production. The new tractors closely resemble the John Deere "40" Tractors, which they replace; but the new 2-cylinder, valve-in-head engine, which is common to both models, delivers approximately 20 per cent more horsepower. Both tractors and their matching line of John Deere and allied working equipment are shown and described in a new 24-page folder available to you without cost.

For more facts request No. 16 on reply card

AERO COMMANDER ENGINES

Aero Design & Engineering Company. The new GO-480-C1B6 Lycoming high compression engine is now available for use in the Aero COMMANDER 560A, making possible a choice of two engine models available in this popular aircraft. This now makes three different Aero COMMANDERS that are in production—the 560A, the (HC) 560A and the Supercharged 680 which was announced last September.

For more facts request No. 17 on reply card

SHOP HEATER, INCINERATOR STOVE

Hoskinson Industries. A new unit called the Hoskinson Shop Heater, a practical combination designed for 20th century economy, which converts a liability into an asset. Capable of furnishing odorless, clean, free heat for up to 2,000 square feet of floor space, this economical Shop Heater is constructed to provide trouble-free service without a chimney installation. A large capacity fire box makes possible burning almost any size container, and a spacious ash pit makes removal seldom necessary. May we send you complete particulars without obligation?

For more facts request No. 18 on reply card

STOP SMOOTHLY, SAFELY

Raybestos Division, Raybestos-Manhattan, Inc. A very interesting booklet entitled Stop Smoothly Safely, has recently been published by Raybestos. All safety-minded individuals will want a copy, and the Corporation has agreed to send you one without cost. Please circle the product card, and one will be forwarded to you without delay.

For more facts request No. 19 on reply card

MUTUAL INVESTMENT FUND FACTS

Brown, Madeira, and Company. This company, specializing in mutual investment funds, will send, without obligation, facts about conservative, middle-of-the-road, and aggressive types of investments and mutual funds.

For more facts request No. 20 on reply card

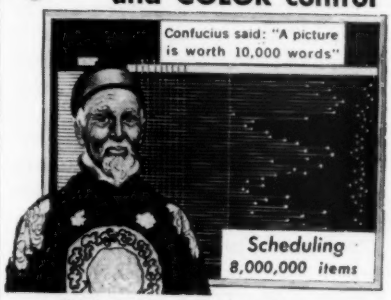
BELCO REPLACEMENT FAUCET STEMS

Miller Manufacturing Company. Leaking compression type faucets, lost water and excessive maintenance costs are gone forever with the installation of Belco ball bearing replacement stems, complete with bibb washers. To insure perfect replacement, stems are made to order from a sample sent in by the purchaser—housing authority, military installation or institution. Stems include the Belco valve seat unit. The moment the rubber faucet washer contacts the seat its turn-

PRODUC-TROL Visual Control

not only schedules,

But automatically checks with TIME, LINE and COLOR control



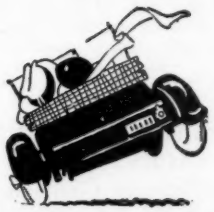
- Original cost and upkeep low.
- Schedules and time checks operations.
- Historical record to back it up.
- Bad situations show automatically.
- Its simplicity has put it into world-wide use.
- Analyze 100 items in 10 seconds.

Effective Tools for Effective Management

WASSELL ORGANIZATION, INC.
Westport, Conn.

For more facts request No. 26 on reply card

ARE YOU MOVING?



To assure receiving your copy of ARMED FORCES MANAGEMENT uninterrupted, please notify us of your change of address at least a week ahead of your moving day. Mail a card or letter with *both* your old and new addresses to ARMED FORCES MANAGEMENT, 121 N. Madison, Rockford, Ill., *before* you move. Changes of address received by the 15th of the month become effective with the issue dated the following month.

ing action stops and the ball bearing takes up the load, exerting non-turning pressure on the washer seat. The bibb washer is only under compression and is not subject to cutting or grinding action.

For more facts request No. 21 on reply card

VISUAL MANAGEMENT CONTROL

Graphic Systems. This New York firm invites men interested in efficient management to get things done with Boardmaster Visual control which gives a graphic picture of operations, spotlighted in color, saves time, money, and stops errors.

For more facts request No. 22 on reply card

COMMON STOCK INVESTMENT

Hamilton Management Corp. Through Hamilton Funds, Inc., a managed common stock investment fund, this firm offers lump sum or monthly investment plans to fit any budget. Interested persons can inquire without obligation. Firm recently declared another quarterly dividend.

For more facts request No. 23 on reply card

FREE STORAGE LAYOUT SERVICE

Equipto Division of Aurora Equipment Co. Free layout service to assure better storage facilities for less money is available from Equipto. Take advantage of valuable advice on the number and kind of storage units to buy, furnished with complete floor plans and elevation drawings.

For more facts request No. 24 on reply card

ALL-PURPOSE HAT AND COAT RACKS

Vogel-Peterson Company. Snap-over hooks to replace hangers give double capacity in same area. Checkerette racks can be set up or taken down in a minute without nuts, bolts, or screws, are strongly built of welded heavy gauge steel.

For more facts request No. 25 on reply card

VISUAL CONTROL BOARD

Wassell Organization, Inc. Produc-trol not only schedules but automatically checks with time, line, and color control, has low original and upkeep cost.

For more facts request No. 26 on reply card

A limited number of leatherette bound copies of ARMED FORCES MANAGEMENT, Volume 1, October 1954 through September 1955, are available at $10.00. Those organizations and individuals who have already ordered Volume 1, need not reorder. It is requested that orders be addressed to Librarian, ARMED FORCES MANAGEMENT, 208 South Second Street, Rockford, Illinois.

EFFICIENT SIRENS FOR MILITARY VEHICLES

Federal Sign and Signal Corporation. Specifying Federal sirens, available in 6 different classes and 34 different models, will insure procurement of an efficient signal and adequate warning device for military vehicles.

For more facts request No. 27 on reply card

PROTECTIVE APPAREL

Wheeler Protective Apparel, Inc. This leading manufacturer of protective rescue equipment announces the new Fire King with air-pak to help rescue units avoid the most disastrous consequences of fire. The apparel utilizes light aluminized asbestos and an efficient air pak breathing unit with capacity for extreme exertion of 15 minutes constant work inside the suit.

For more facts request No. 28 on reply card

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by most of the 20,000 subscribers of

ARMED FORCES MANAGEMENT

the only monthly horizontal magazine to all of the Defense Services and the only horizontal one with a products section of cost-saving equipment.

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National Debt Now $275,000,000,000

Our national debt is approximately 275 billion dollars. Most of it was incurred during the last 20 years.

$275,000,000,000 represents an expenditure of $4.46 a second since the birth of Christ. That means an expenditure of $385,344 a day for 1955 years, almost $142,000,000 annually.

Represented in 160-acre farms at $100 an acre, $275,000,000,000 would have bought 8,790 farms a year for 1955 years. So, our national debt is equal to 17,184,450, $16,000 farms, with 160 acres each the area involved would be 2,749,512,000 acres. This becomes more complicated when we consider the nation's farms only total 5,382,000 with a total acreage of 1,158,565,852.

It takes 640 acres to make a square mile and if $275,000,000,000 were reduced to paper dollar bills they would cover one square mile 1086 times or make a carpet approximately one foot thick.

Aviation Medicine Probes Secrets of Outer Space

Edwards AFB, Calif. (AFPS)—Air Force Maj. Arthur Murray flew a rocket-powered Bell X-1A 1,650 mph at 90,000 ft. recently—higher and faster than any human being has flown before. The record flight carried him within striking distance of outer space.

Yet, without the help of aviation medicine, Maj. Murray would not have lived to tell about his flight here. In fact, he could not have gone half that high and survived.

Without the medical safeguards, the major would have blacked out entirely in 11 to 17 seconds at 50,000 ft. At an added 13,000 ft. his blood would have hit the boiling point. Eventually, his tissue would have bloated and burst.

But sitting at the controls within a pressurized cockpit, with air and oxygen flowing through his mask, a pilot now can breathe when the outside air is too thin.

And when the pilot soars so high that the conventional oxygen mask won't help, an automatic valve force rushes air into his lungs. At extreme heights, the flier's lungs push out air rather than draw it in.

LEADERSHIP

by Colonel Sherman L. Kiser,
U.S. Army, Retired.

IT HAS been the habit of all of us to talk about leaders and leadership without giving much thought to the true meaning of leadership on a human plane.

To lead, means to guide—whether it be a horse, cow, dog, or a person. The chief editorical article of a newspaper is known as a leader and so is a musical conductor.

When we pause to think it over, however, we realize that the method of leading must coincide with—be in harmony with—the essential nature of what is being led, or we cannot hope to get the best results.

When leading an animal, we do it with a rope, strap, string or chain, or we may just walk in front of it and it will follow. If we are leading an orchestra, we do it with the voice, facial expressions and signals with the arms, hands, baton, etc.

Man is different from any other creature upon the earth for he has been endowed with mind, a consciousness through which he can become aware of ideas. When man becomes aware of an idea, he records it in some form for his future use and for the use of others. This record of the idea that man makes, is not the idea—it is only a form, or symbol, of the idea. When man becomes aware of an idea, the image, or pattern, of the idea is registered in memory and is in this way always available when he needs it in his thoughts, in solving the endless problems with which he is confronted throughout his lifetime.

Ideas are the source of all of our inventions and discoveries. All that man has produced upon the earth, first came to his mind as an idea. These countless inventions and discoveries by man are his extensions—they are the means by which he is able to do things he could not do, or, at least, not do so well, or so quickly without them. They are one of the means which man has of gaining greater dominion over the earth, the seas and the skies.

Man's conscious awareness is the line of demarkation between man and the animals. Since consciousness which is mind is infinite and free, man naturally has volition, that is, he can think as he pleases. Mind in its very nature is free. No one can ever fence in, or confine, the mind. Even though a man may be in a dark mine thousands of feet below the earth's surface, his mind can reach out to the ends of the earth and sky. The mind is, therefore, infinite and since there are no ingredients in mind that are material, or subject to decay, it is also eternal.

The animals are essentially physical beings and are, therefore, temporary. They remain upon the earth until their purpose for being here is fulfilled and then they become extinct. We are continually finding the bones of extinct animals.

Man progresses and gains greater dominion over the earth because of his mind, his thinking. He is, therefore, essentially a mental being. Since he is essentially a mental being, he must be led and governed by mind. He must always be free because that is his essential nature.

From history, we gain glowing accounts of men and women who were outstanding leaders—and some who were not. Some were selfless, wise and able leaders who were able to lead the nation, enterprise or activity, for which they were responsible to great accomplishment and to prove eternal principles for the guidance of all who were to follow after them. Others were selfish, egotistical and ignorant, whose lust for power, prestige and self aggrandizement overshadowed other consideration and they, therefore, left nothing in their wreckage that would be useful to mankind except examples of wrong methods which always lead to failure.

Until the end of the last century, leadership of men was supposed to be an Art, or an inherited trait that some men were fortunate enough to have and others were doomed to follow.

As late as 1948, one of our leading Military Journals published an article written by a noted General Staff Officer, the content of which was to the effect that we did not know the meaning of leadership and, furthermore, that we would never know. Leadership, he said, was an intangible, spiritual quality that man would never be capable of understanding. He said that we did understand "Command Technique," so why not talk about and practice Command Technique and forget about Leadership, which we would never be able to understand anyway.

Naturally, a subject as important as Leadership which was so desperately needed by everyone, everywhere, could not be so easily dismissed.

During World War I, our services were impressed by studies, reports and seeming progress of some of our outstanding Psychologists. It appeared that a way might be opened through which, after much study, research and recorded tests, we might be able to organize and co-ordinate the knowledge thus gained into a system—thereby creating a science of Leadership which we could understand, use practically and teach to others in our Schools, Colleges and Universities and, especially, in our Service Schools and Academies.

Soon after this period, psychological theories began to appear in courses of instruction in Leadership, in many of our Service Schools, Academies and in the texts prepared for instruction of the R.O.T.C.

This type of course is still in use by the Services.

Psychology is a study that treats of the mind but, specifically, it is that branch of biologic science which deals with the reaction of organisms to their environment.

Psychologists are constantly urging more research to learn why people think as they do—what are the human reactions to their every day experiences, their environment.

Thus, the study of humans is conducted much the same as a study of monkeys, rats or other animals.

It is not man's environment, nor even his physical make-up, that should control him and shape his destiny. Man is essentially mental, therefore, his mind—his thinking—should control him. Because he has volition, he can himself decide what he wants to do. It is through the development of his mind that he will be able to prepare himself to fit into his niche in life. If his body is normal it will develop and adjust itself to suit the needs of his mind.

Since Leadership requires an understanding of mind and the action of mind, which is thought, it is quite obvious that while we were hoping to find the solution for Leadership through a study of psychology—that we were searching in the wrong direction, for the psychologist is studying reactions to environment which is working on the assumption that man is essentially a physical being.

An understanding of Leadership must be approached from the level of mind rather than from the biological.

If man is essentially a mental being, if his development and progress comes through the improvement of his mind, the awareness of new ideas and the development of new and greater inventions and discoveries—then man's Leadership in his home, in his government and in all of his activities, must be of such nature that it will create the atmosphere, conditions and incentives for the natural growth, development and unfoldment of his mental processes.

In the individual, it is obvious that the body can do nothing without the mind. On the other hand, the only way the mind can manifest itself is through the body. The impulse for the body to act, comes from the mind, therefore, it is a self-evident truth that the mind leads the body. In a group, no matter how small or how great, it is in the mind of the leader where the plans and decisions originate, which are the source of the group activities. Therefore, it is obvious that Leadership is mental action—whether it is in the individual, or in a group of any size.

Mind is purely mental, it has no material ingredients in it whatsoever. If mind contained any material elements, it would be subject to decay and it would then not be infinite and eternal.

Since mind is infinite and eternal, we can never expect to gain an understanding of mind through a study of man's reactions to his environment, through a study of biology.

Modern psychology has made great strides in recent years. It has made many wonderful discoveries and it has an important, permanent place in our educational system, but, in its present stage of development, it has produced no body of knowledge that could be used as a foundation upon which we could build a science of Leadership.

Because leadership is mind action, it is necessary to gain an understanding of mind and its activities in order to develop and establish the science of Leadership on a practical and solid foundation.

Since Leadership is mind action and since psychology has its basis in, and in fact is, a branch of biology, it should have been obvious to us long ago that we were searching in the wrong direction for an understanding of Leadership.

When I realized that the psychological approach to the subject of Leadership was taking us farther and farther in the wrong direction, the true seriousness of the situation finally dawned upon me. It was at the end of World War II, when the world was talking about the United States being responsible for World Leadership, that I realized that our greatest leaders, Governmental as well as the Military, did not even know the true meaning of Leadership. Even instructors in the subject of Leadership in our Service Schools and Academies, admitted that they did not understand the real meaning of the word. This was indeed a truly serious situation which called for a supreme effort.

As I pondered the situation, it seemed to me that the great philosophers and mystics of the past, had left us with an immense amount of knowledge and wisdom that could somehow be assembled into useable form, if we could only find the key or some method of assembly. It appeared as a giant jigsaw puzzle with an abundance of pieces but how were we to assemble them into a form where all ot the parts would fit in their proper order.

After much thought and a deep and sincere desire to solve this great puzzle, the key was finally uncovered when I discovered the positive and negative elements of thought and from this discovery, was able to construct the mechanism of thought.

With this new knowledge as a basis, a clear understanding of the causes and effects of human thinking naturally unfolded. A clear understanding of positive and negative thoughts and the action of mind in creating thoughts and manifesting them through the body, gave me a perfect foundation for the science of Leadership. Once established on a firm foundation, the science of Leadership naturally unfolded and I recorded this knowledge in my book, "The American Concept of Leadership," published by Pageant Press Inc., 130 W. 42nd St., New York City.

With the publication of this book, the science of leadership was at last launched in a discordant, disorganized and troubled world. It is carrying a message of harmony, of hope and of understanding to untold millions. This new science will unfold until it becomes the infallible guide for the thoughts and activities of everyone, everywhere. We are now looking—and going—in the right direction.

Army's New Unit Purifies 99,000 Gallons of Water in Flood Area

Ninety-nine thousand gallons of drinkable water were produced distributed by the Army's new mobile purifier during nine days of emergency operation recently in flood-ravaged Stroudsburg, Penna.

Developed by the Corps of Engineers' Research and Development Laboratories, Fort Belvoir, Va., the truck-mounted unit is capable of purifying 3,000 gallons of water an hour, 24 hours a day. A six-man team of water experts headed by Harry N. Lowe, Jr., Chief of the Laboratories' Sanitary Engineering Branch, worked 13 hours a day to produce quality water in quantities exceeding the demand. This did not require working the unit at full capacity.

Letters to the Editor

3 January 1956

Dear Editor:

Can you tell me where to buy a book entitled "Flying the Omnirange"? I have tried several sources without finding it. The publisher is a Mr. Zweng to the best of my knowledge. Incidently, I know several of us would appreciate some book reviews along these lines.

Sincerely,
George P. Dwell
1st Lt., TC

Dear Lieutenant Dwell:

Thank you for your letter, and the book you desire may be purchased from Pan American Navigation Service, Incorporated, 12021 Ventura Blvd., North Hollywood, California. We shall be glad to review this book and others in the field in the near future.

D. D. Corrigan
Book Reviews

Headquarters Fifth Army
1660 South Hyde Park Blvd.,
Chicago, Illinois
28 December 1955

Dear Editor:

I have been reading ARMED FORCES MANAGEMENT now for over a year, and have watched your progress in bringing to us features from interesting personalities both within the Armed Forces and industry. Here is a suggestion which I think will help you in continuing your program. Why not in keeping with your horizontal policy, have five features in each issue? It would be possible to have the main feature by one of the Corps or Branch Chiefs as you are now doing, and still have one from each of the other services. I appreciate that to then add some from industry would probably increase the size of your magazine, but I believe it would result in more subscriptions. There are two sections of your publication that are especially interesting to me. Your "Suggestions and Conservation" section showing what management ideas are being adopted by other commands, gives us a raft of ideas which we can use. The second, is your product section which I read carefully each month. Perhaps to put in more features as suggested above, some of the sections could be shortened. Maybe you could get some ideas from other readers, and that is why I have written to you.

Yours very truly,
Harvey S. Sullivan

Dear Mr. Sullivan:

We should like to thank you for your suggestions and favorable comments, and will reproduce your letter in the hope of hearing from some of our other subscribers. It is quite difficult to schedule features as you propose at this time. Space limitations now preclude our use of as many features as you recommend, however, as we grow and expand to more pages, we shall try to do as you request.

North American Tests Effect Of Supersonic Bailout

LOS ANGELES, Calif.—Hurtling into the air from a rocket sled traveling nearly 700 miles an hour, a steel-and-rubber replica of North American Aviation Test Pilot George F. Smith has given company engineers the first calculated picture of what happens to a pilot during a supersonic bailout.

Smith became the first man to live through an ejection escape from an airplane going faster than sound at low altitude when he lost hydraulic control of an F-100 Super Sabre during a test flight on February 26, 1955. He smashed into the hurricane-like airstream at a speed of Mach 1.05—777 mph—at 6500 feet altitude and suffered injuries that put him in the hospital for six months.

Recently at Edwards Air Force Base in the Mojave Desert, North American Human Factors engineers, in the first such tests ever conducted to match a particular pilot's experience, duplicated in every respect the escape of Test Pilot Smith.

Air Ride Suspension Developed by GMC

PONTIAC, Mich. — Development of air ride suspension for GMC trucks, which will introduce a new era of economy and efficiency in the trucking industry, was announced by Philip J. Monaghan, vice president of General Motors and general manager of the GMC Truck and Coach Division.

The revolutionary new type of suspension, whereby air-filled rubberized bellows replace the conventional metal leaf springs, is now on an experimental GMC truck-trailer combination and will be ready for production late this year, Monaghan said.

Over 400,000,000 miles of operating experience with air suspension on GM coaches, and tests with air-ride trucks at the General Motors Proving Ground, shows that GMC truck air suspension:

Eliminates spring lubrication, repairs and replacement.

Either fully or partially loaded, provides smoother ride for driver, resulting in less fatigue, an important safety factor.

Absorbs vibration and road shocks, reducing breakage of fragile cargo.

Permits lighter-weight less-expensive packaging of goods for shipment.

Increases trailer payload capacity by lowering floor height.

Facilitates loading and unloading by keeping floor at constant height.

Gen. Collins Slated To Retire in March

Washington (AFPS)—Gen. J. Lawton Collins, former army chief of staff and special U. S. ambassador to Vietnam, will retire sometime next March, the Army has announced.

No successor has yet been named to his present post as U. S. representative to NATO's Military Committee and Standing Group.

● Two Air Force fighters, the McDonnell F-101A and the Lockheed F-104 have exceeded the 1,050-mph set by the Chance Vought F8U-1 Navy fighter. Since Defense Dept. has clamped a lid on speed records, none of these three accomplishments is expected to be made public officially.

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There are two ways to dictate. The one which cuts work in half is Dictaphone time-master dictating machine with dictabelt record.

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Is the maker of the Beacon Ray light. Military sub-divisions using it have set new safety records.

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Wheeler Protective Apparel, Inc.....Page 41
The leading manufacturers of rescue apparel announce their Wheeler Fire King, the most modern, economical, and effective in fire-fighting gear.

New Landing Chute Helps F-84F, RF-84F Stop in Only 2,400 Feet

FARMINGDALE, N. Y.—New drag parachutes being installed on F-84F Thunderstreak jet fighter-bombers and RF-84F Thunderflash photo-reconnaissance planes enable these craft to roll to a stop on a normal landing in only 2,400 feet, Republic Aviation Corporation said recently.

That is 1,000 feet shorter than a normal landing run without the chute, the company said. Without any use of brakes, the F-84F utilizing the chute in a company test slowed to a safe turn-off speed of 20 knots in 4,500 feet.

Sergeant Develops Work-Saving Cart

A utility cart designed in a work simplification course by a sergeant at Fort Benning's U.S. Army Hospital cuts in half the time and number of attendants required to receive patients in the hospital's Recovery Ward following operations.

Sgt. James E. Truitt of (1807 Third Avenue), Opelika, Ala., wardmaster of the post hospital's Recovery Ward, supervised construction of his cart in the hospital's utility shop after his graduation from Work Simplification Course No. 52.

The cart, attached to the head of the bed, provides equipment for administration of oxygen, solutions and other needed treatment. The simplified arrangement allows attendants easier access to the patient and facilitates continuance of treatment while the patient is being moved.

Formerly four attendants worked 10 minutes receiving patients in the Recovery Ward. Truitt's cart allows two men to do the job in five minutes. The use of the cart is expected to save 300 manhours annually.

British Accept Decca Navigation System

Announcement has been made by the British Ministry of Transport and Civil Aviation of the complete acceptance of the Decca Navigation System for air traffic control and air navigation.

Three years of study and evaluation of various systems has culminated in a decision that the Decca system shall be the official one used over the United Kingdom. Because of its large area coverage, pictorial presentation and high accuracy, it has been decided that the Decca System best meets the requirements for air navigation on the United Kingdom Airways and in control zones.

Bendix Aviation Corporation has license for the manufacture of the Decca Navigation System in the United States. The Pacific Division of the Corporation in North Hollywood, California is currently engineering American versions for both commercial and military applications.

Two ways to dictate . . . one cuts work in half

Ever realize that shorthand dictation is *"double writing"*? Secretary sits through pauses, interruptions while man dictates . . . takes time converting words into code . . . later translates and types.

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For more facts, write Dictaphone, 420 Lexington Avenue, New York 17, N.Y. or call the Dictaphone office in your city.

The Dictaphone TIME-MASTER *dictating machine. "Takes the words right out of your mind."*

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